AMENDMENTS TO THE DRAWINGS:

The attached sheet of drawings includes changes to ________.

REMARKS

Some of the claims have been amended to define the nature of the mobile device more particularly.

Applicants traverse the rejection of claims 34-41 under 35 USC 102(e) as being anticipated by Ohta, US Patent Publication 2001/0029531. The office action incorrectly alleges Ohta discloses, at paragraph 0058, lines 1-5, measuring the strength of the signal received at the mobile device as transmitted from a plurality of access points. Presumably, the examiner interprets the mobile device of the reference to be portable digital device 11-1. The relied on portion of the reference, however, states the print station measures the strength of the wireless signal that was received at the print station from the portable digital device 11-1. In other words, the reference indicates the situation is just the opposite of what the office action alleges. Consequently, the anticipation rejection of claims 34-41 is wrong.

Applicants traverse the rejection of claims 1-17, 19, 22-26 and 28-33 under 35 USC 103(a) as being unpatentable over Ohta in view of Taki, Japanese patent publication 10-191453. (Attorney for applicants has obtained, from the Japanese Patent Office, a machine translation of the entire Taki reference and forwards a copy thereof; it is noted that the word "airline" in the translation should apparently be -- online --.) The rejection of each of independent claims 1, 16 and 22 states one of ordinary skill in the art would have modified access point 16, Figure 1, of Ohta so the access point is responsive to wireless signals from portable digital device 11 because Taki discloses a wireless link between PDA 10 and transceiver station 41, which the office action equivocates to an access point. The office action states one of ordinary skill in the art would have made such a modification because the modification would "provide greater security when performing wireless public print jobs." There is no basis in the references for this conclusion.

The translation of Taki indicates the link between PDA 10 and base transceiver station 41 has less security than the link between digital device 11 and the selected print station 12C of Ohta. Paragraph 0035 of Taki indicates the transmission from PDA 10 to transceiver station 41 is via a Personal Handy-phone System (PHS). Paragraph 0040 of Ohta, however, indicates a PHS has a much broader transmission area than the narrow search area between digital device 11 and the selected print station 12C. Consequently, the motivation set forth in the office action for the combination of references is not only without foundation from the references, but is contrary to the very disclosure of the primary reference. As a result, one of ordinary skill in the art would not have made the modification set forth in the office action.

Because the rejection of independent claims 1, 16 and 22 is wrong, the rejection of the claims dependent thereon is incorrect.

Allowance is in order.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 08-2025 and please credit any excess fees to such deposit account.

Respectfully submitted,
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PATENT ABSTRACTS OF JAPAN

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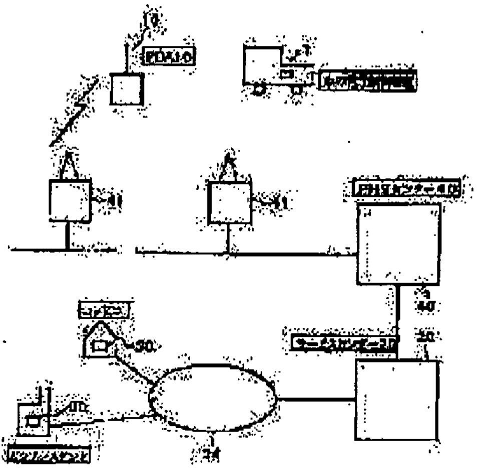
(54) DATA TRANSFER OUTPUT SYSTEM AND INFORMATION PROCESSING UNIT

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a data transfer output system which transfers document data or the like prepared by a personal digital assistant(PDA) to a printer installed at a shop designated by a user to allow the printer to print out the document data.

SOLUTION: Document data and position information (or information relating to a succeeding mobile location) prepared by a PDA 10 are transmitted to a service center 20 via a personal handy phone system(PHS) center 40 and the service center 20 selects information relating to a shop (a gas station in the case that a user is in a vehicle) being a print proposed location where a printer 30 is installed closer to the PDA 10 (or a succeeding moving location) than a database, transmits the information to the PDA 10 and the user designates the print location among the print proposed location displayed on the PDA 10 to allow the service center 20 to transfer document data to the designated printer 30, where the document is printed out.



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[Date of request for examination] 07.03.2001 etc.

[0013] It is an electronic control about the part concerning the gestalt of operation of this invention of various kinds of electronic controls carried in the vehicle, is the electronic control which carries out supervisory control of the GPS unit 3, and has a data-processing function and the communication facility in a short distance with PDA10 grade, and the electronic control 1 of a vehicle can perform PDA10 and data communication (the detail of the electronic control 1 of a vehicle is indicated to below-mentioned drawing 2).

[0014] PDA (Personal Digital Assistants)10 is the small Personal Digital Assistant which the user who had communication facility, such as a function manager (PIM function), a PHS function, etc. of personal data, such as an entry of data and a document composition facility which can be created, a clock function, and a scheduler, etc. by a key input or the ** N input carries, and is equipped also with communication facility with the electronic control 1 of the vehicle in a short distance (the detail of PDA10 is indicated to below-mentioned drawing 3).

[0015] A service center 20 is equipped with the database 23 of the information about printing service at the various stores in which the airline printer 30 with which an area is dotted was installed, and the store concerned, and chooses the airline printer 30 which was suitable according to the printing demand from a user's PDA10, and a user transmits document data to the airline printer 30 concerned specified out of it, and makes an airline printer 30 print it (the detail of a service center 20 is indicated to below-mentioned drawing 4). Moreover, a service center 20 creates password data and transmits them to the both sides of PDA10 and an airline printer 30.

[0016] It is equipment which an airline printer 30 is installed in the various stores (for example, a convenience store, a gas station, etc.) which offer the printing service with which an area is dotted, and receives and carries out the printout of the print data from a user. At this time, the print data sent to the PHS pin center,large 40 from PDA10 It is transmitted to an airline printer (or direct [without going]) 30 via a service center 20 from the PHS pin center,large 40 (at this time, password data are sent to PDA10 and an airline printer 30 from a service center 20, respectively). And the user who ordered printing service pays a regular tariff to the store concerned, and receives at it the document by which the printout was carried out. However, in creating password data, it checks whether the password data (password etc.) which the airline printer 30 and user side of PDA10 received from the service center 20, respectively are in agreement in the case of delivery.

[0017] The PHS pin center,large 40 is a PHS service control station used as the key station of the base station 41 installed in order to receive the electric wave from PDA10. [many] Supervise the positional information of PDA10 which is a Personal Digital Assistant by the location add function which is one of the network functions of PHS, and the base station 41 by which distributed installation is carried out is minded. The received data from PDA10 are transmitted to a service center 20, and transmission or the data from a service center 20 is transmitted to PDA10 (however, you may make it transmit print data to an airline printer 30 directly, without transmitting to a service center 20).

[0018] Drawing 2 is the block diagram which indicated the outline of the configuration of the electronic control 1 of the vehicle which is one of the data transfer output structure-of-a-system elements concerning the gestalt of this operation.

[0019] The electronic control 1 of a vehicle consists of stores 8, the communications departments 9, etc. having CPU2, the GPS unit 3, a display 4, the input section 5, RAM6 and ROM7, and storage 8a, and each of these components are mutually connected through Buss 1a.

[0020] CPU (Central Processing Unit)2 The application program specified out of the various application programs corresponding to the system program memorized by storage 8 and the system program concerned is stored in the program storage area in RAM6. The various directions or data inputted from the GPS unit 3, the input section 5, and (minding the communications department 9) PDA10 is stored in RAM6. While performing various processings according to the application program stored in storage 8 according to this input directions or input data and storing that processing result in RAM6, the transmit data to PDA10 is transmitted to the communications department 9.

[0021] The GPS unit (Global Positioning System Unit) 3 With the equipment which receives the electric wave from a geostationary satellite (at least three or more) with the exclusive antenna installed in the vehicle, and performs calculation of the location (LONG, LAT) of a vehicle, calculation of the optimal route to the destination, calculation of the distance to the destination, etc. That calculation result (this calculation result is hereafter described as GPS information) is sent to CPU2, and CPU2 memorizes the data about the received calculation result to RAM6. Moreover, the GPS unit has attached the display which is the image display device which performs a CRT display and a LCD display, and usually displays it visually with the map which carried out image display of the above-mentioned calculation result on the screen. Moreover, the above-mentioned calculation result is transmitted to PDA10 by the communications department 9 if needed (to demand [PDA /10]).

[0022] In addition, GPS unit 3 the very thing is equipped with CPU, RAM, ROM, etc. of dedication, and CPU2 usually has the composition that only an operation command or the sending-out command of result-of-an-operation data receives delivery and the result of an operation, and is memorized to RAM6, to CPU of dedication.

[0023] A display 4 is constituted by the image display device which performs a CRT display and a LCD display, and displays calculation results, such as a location (LONG, LAT) of a vehicle by the GPS unit 3, optimal route to the destination, and distance to the destination.

[0024] The input section 5 is the input section which inputs directions of the display change in the various entries of data and displays 4 to the GPS unit 3, such as initialization data, etc.

[0025] RAM (Ramdom Access Memory)6 consists of a storage region which memorizes temporarily the various programs in which data processing is carried out by CPU2, data, etc., and memorized read-out of various programs, data, etc. is also performed.

[0026] The data about the GPS information (the location of a vehicle, the optimal route to the destination, distance to the destination, etc.) from the GPS unit 3 etc. are temporarily memorized by RAM6.

[0027] ROM (Read Only Memory)7 is read-only memory which reads the data stored by the directions from CPU2, and the exclusive program which processes the various data about the supervisory control of a vehicle is memorized.

[0028] The store 8 has storage 8a a program, data, etc. are remembered to be, and this storage 8a is constituted by magnetic, an optical storage medium, or semiconductor memory. Moreover, storage 8 is equipped with storage 8a free [the thing prepared fixed or attachment and detachment].

[0029] To this storage, a system program and the various application programs corresponding to the system program concerned, various entry-of-data processings, communications processing, detection processing, the data processed with each processing program are memorized.

[0030] In addition, the program memorized to this storage 8, data, etc. may make the configuration which receives and memorizes from other devices connected through the communication line etc., may form the store which equipped with the above-mentioned storage further other devices side connected through the communication line etc., and may make it the program memorized by this storage and the configuration which use data through a communication line.

[0031] The communications department 9 is a communication device for performing a communication link (for example, infrared ray communication) in PDA10 and the short distance which a user carries, and transmits the signal (for example, signal of the contents that a transmitting agency is a vehicle) which specifies a transmitting agency to PDA10.

[0032] Drawing 3 is the block diagram which indicated the outline of the configuration of PDA (Personal Digital Assistants)10 which is one of the data transfer output structure-of-a-system elements concerning the gestalt of operation of **** 1.

[0033] PDA10 consists of stores 17, the communications departments 18, etc. having CPU11, the PHS unit 12, a display 13, clock section 14a, input section 14b, RAM15 and ROM16, and storage

17a, and each of these components are mutually connected through Buss 10a.

[0034] CPU (Central Processing Unit)11 The application program specified out of the various application programs corresponding to the system program memorized by storage 17 and the system program concerned is stored in the program storage area in RAM15. Section 14a, input section 14b, the electronic control 1 of a vehicle (minding the communications department 18), and a base station 41 are minded. the PHS unit 12 and a time check -- PHS40 The various directions or data inputted is stored in RAM15. (Namely, service center 20) etc. -- from -- While performing various processings according to the application program stored in storage 17 according to this input directions or input data and storing that processing result in RAM15 The data (document data, printing requested data, etc.) transmitted to a service center 20 are read from RAM15, and are inputted into the PHS unit 12. Moreover, the transmit data to the electronic control 1 of a vehicle is read from RAM15, and is inputted into the communications department 18.

[0035] The PHS unit (Personal Handy-phone System Unit) 12 is equipment which transmits the data (document data, printing requested data, etc.) inputted from CPU11 from miniaturized antenna 12a of an attachment with the electric-wave gestalt based on the communications protocol of PHS to the external base transceiver station 41.

[0036] A display 13 is equipment which displays the various data which are equipped with the display screen in which a LCD display and a CRT display are possible, and are inputted from CPU11 in the display screen.

[0037] Clock section 14a is equipment equipped with total tide ability, when the information about the time of day clocked is displayed in a display 13 and CPU11 performs input of the data (for example, data about a schedule etc.) accompanied by time information, preservation, etc., the information about time of day is inputted into CPU11 from clock section 14a, and CPU11 performs said actuation based on the inputted time information.

[0038] Input section 14b consists of the display screens (it is almost the case that the display screen in this case is the display screen in a display 13) for performing various kinds of function keys and pen inputs etc., is the input unit which performs the data input about a schedule etc., the input of various kinds of retrieval commands, various kinds of setting inputs of PDA10, etc., and outputs a key input and the signal by which the pen input was carried out to CPU11 by a key input or the pen input (handwriting recognition with a pen is included).

[0039] RAM (Ramdom Access Memory)15 consists of a storage region which memorizes temporarily the various programs in which data processing is carried out by CPU11, data, etc., and memorized read-out of various programs, data, etc. is also performed.

[0040] A processing result, schedule data, etc. which were processed according to the program code which the input directions or the input data from input section 14b and the various data (password data are included) sent from service center 20 grade through the PHS unit 12, and CPU11 read from storage 17a to RAM15 are memorized temporarily.

[0041] ROM (Read Only Memory)16 is read-only memory which reads the data stored by the directions from CPU2.

[0042] It has storage 17a a store 17, a program, data, etc. are remembered to be, and this storage 17a is constituted by magnetic, an optical storage medium, or semiconductor memory. Moreover, storage 17 is equipped with storage 17a free [the thing prepared fixed or attachment and detachment].

[0043] To this storage, the data (schedule data are included) processed with a system program and the various application programs corresponding to the system program concerned, a display process, communications processing, input process, and each processing program are memorized.

[0044] In addition, the program memorized to this storage 17, data, etc. may make the configuration which receives and memorizes from other devices connected through the communication line etc., may form the store which equipped with the above-mentioned storage further other devices side connected through the communication line etc., and may make it the program memorized by this storage and the configuration which use data through a communication line.

[0045] The communications department 18 is a communication device for performing a communication link (for example, infrared ray communication) in the communications department 9 and the short distance of an electronic control 1 of a vehicle. When a user carries PDA10 and takes a vehicle, PDA10 detects that the user rode in the vehicle by the communications department 18 receiving the signal (for example, signal of the contents that it is a vehicle) transmitted from the communications department 9 of an electronic control 1, and transmitting the received signal to CPU11.

[0046] Drawing 4 is the block diagram which indicated the outline of the configuration of the service center 20 which is one of the data transfer output structure-of-a-system elements concerning the gestalt of this operation.

[0047] The service center 20 consists of a communication link unit 21, information retrieval equipment 22, a database 23, etc.

[0048] The communication link unit 21 receives the document data transmitted through the PHS pin center,large 40 from PDA10, and the data (positional information by the GPS unit 3 when it is in the train) about the location of PDA10, and inputs the received data into information retrieval equipment 22. Moreover, the data which information retrieval equipment 22 searched, the created password data are transmitted to PDA10 or an airline printer 30 through the communication link unit 21.

[0049] Information retrieval equipment 22 consists of 22d of stores which have CPU22a, RAM22b, ROM22c, and storage 22e etc. inside, and each of these components are mutually connected through Buss 22f.

[0050] CPU(Central Processing Unit)22a The application program specified out of the various application programs corresponding to the system program memorized by 22d of storage and the system program concerned is stored in the program storage area in RAM22b. The various directions or data inputted is stored in RAM22b. the communication link unit 21 and a database 23 -- since -- While performing various processings according to the application program stored in 22d of storage according to this input directions or input data and storing that processing result in RAM22b The data transmitted to PDA10 or an airline printer 30 are read from RAM22b, and are outputted to the communication link unit 21.

[0051] Moreover, CPU22a searches a database 23 based on the data about the location of PDA10 inputted through the communication link unit 21, extracts the information about the store in which the airline printer 30 near PDA10 (namely, user) was installed from a database 23 (at this time, when there is PDA10 in the train, a gas station is extracted as a store), and outputs the extracted data to the communication link unit 21. Moreover, if the information about the airline printer 30 specified by the user whom the communication link unit 21 received from PDA10 is inputted, password data, such as a password, will be created and document data and password data will be outputted to the communication link unit 21.

[0052] RAM(Ramdom Access Memory)22b consists of a storage region which memorizes temporarily the various programs in which data processing is carried out by CPU22a, data, etc., and memorized read-out of various programs, data, etc. is also performed.

[0053] The input data from the communication link unit 21, the output data from the communication link unit 21, the data CPU22a carried out [data etc.] the retrieval extract from the database 23 according to the program code read from storage 22e are temporarily memorized by RAM22b.

[0054] ROM (Read Only Memory)16 is read-only memory which reads the data stored by the directions from CPU22a.

[0055] 22d of stores has storage 22e a program, data, etc. are remembered to be, and this storage 22e is constituted by magnetic, an optical storage medium, or semiconductor memory. Moreover, 22d of storage is equipped with storage 22e free [the thing prepared fixed or attachment and detachment].

[0056] To this storage, the data processed with a system program and the various application programs corresponding to the system program concerned, communications processing, input process, retrieval processing, and each processing program are memorized.

[0057] In addition, the program memorized to this storage 22e, data, etc. may make the configuration which receives and memorizes from other devices connected through the communication line etc., may form the store which equipped with the above-mentioned storage further other devices side connected through the communication line etc., and may make it the program memorized by this storage and the configuration which use data through a communication line.

[0058] A database 23 is the assembly of the data file by which the information about printing service at the various stores (for example, the convenience store and gas station of a neighboring area) and the applicable store in which the airline printer 30 which a service center 20 offers is installed was integrated.

[0059] Drawing 5 is drawing which indicated the example of the file content stored in the database 23 of a service center 20.

[0060] A file content given in drawing 5 is the information about printing service at the various stores which install an airline printer 30 and offer printing service, and the store concerned.

[0061] In the item of a tariff, data concerning [the data about a classification (for example the class X is a convenience store-related store, and Class Y is a gas station-related store etc.) according / data concerning / data concerning / data concerning a store name in the item of an output destination change / the address of the store concerned in the item of a location / the tariff per printed matter / to the contents of operating of the store concerned] the business hours of the store concerned are memorized by the item of the utilization time at the item of a class, respectively.

[0062] For example, if it looks at concretely about the data of A store, the address of A store is x division xx2-1, a printing tariff is 10 yen per sheet, and the contents of operating of a store are classified into Class X (convenience store), and do business for 24 hours.

[0063] Next, an operation of the gestalt of this operation is explained.

[0064] Drawing 6 is drawing which indicated serially the exchange of the data of Hazama of the airline printer 30 specified by PDA10, a service center 20, and a user until it receives the document printed after the user made the document by PDA10.

[0065] First, a user draws up a document by PDA10 (step P1). And since the output request for printing the drawn-up document, i.e., a user, outputs a creation document, when alter operation is performed (step P2) and there is PDA10 in the train from input section 14b of PDA10 at this time, GPS information is acquired from the electronic control 1 of a vehicle (step P3). and GPS data the case where PDA10 is in the train -- also transmit document data to a service center 20 through the PHS pin center,large 40 (step P4).

[0066] A service center 20 receives the data from PDA10 through the communication link unit 21 (step Q1), and based on the positional information (it is GPS information when PDA10 is in the train) of PDA10 which received, information retrieval equipment 22 searches a database 23, and chooses a printing candidate location (step Q2). And the data about the selected printing candidate location are transmitted to PDA10 (step Q3).

[0067] If a printing location is specified from the printing candidate location where PDA10 displays the printing candidate location received from the service center by the display 13 (step P5), and the user is displayed, the data about the printing location specified from PDA10 will be transmitted to a service center 20 (step P6).

[0068] If the data about the specified printing location are received (step Q4), a service center 20 will calculate the password as password data based on the terminal number of PDA10 (step Q5), will transmit document data and a password to an airline printer 30 through a communication link unit (step Q6), and will transmit a password to PDA10 (step Q7). In addition, a configuration which is transmitted to the airline printer 30 which specified document data directly from PDA10 without the service center 20 at this time may be used.

[0069] The specified airline printer 30 receives document data and a password from a service center 20 (step R1), and carries out the printout of the received document data (step R2). Moreover, PDA10 receives a password from a service center 20 (step P7).

[0070] And at the store in which the specified airline printer 30 is installed, printed matter is passed to a user after checking a password (step R3).

[0071] Drawing 7 is the flow chart of the subroutine performed in case a service center 20 receives the document data (GPS data are included) from PDA10 and chooses the printing location candidate of document data.

[0072] In addition, the program which realizes each function indicated to this flow chart is memorized by storage 22e of information retrieval equipment 22 with the gestalt of the program code which CPU22a of the information retrieval equipment 22 of a service center 20 can read.

[0073] First, in step S1, current time amount is investigated and it shifts to step S2. At step S2, the store which is offering printing service to the current time amount used as the output destination change of document data is selected, and it shifts to step S3.

[0074] At step S3, when a service center 20 distinguishes whether the data about GPS are received from PDA10 and the data about GPS are received, it shifts to step S4, and when the data about GPS are not received, it shifts to step S5.

[0075] In step S4, since there will be a user who is carrying PDA10 in the train when the data about GPS3 are received, the information about the store (gas station) of the class Y which is offering printing service in the database 23 is given priority to and retrieved, and it shifts to step S6.

[0076] At step S5, when the data about GPS3 are not received, based on the positional information of PHS, i.e., the positional information in which a user is, the information about the store which is offering printing service which is in near in a database 23 is retrieved, and it shifts to step S6.

[0077] At step S6, it is made the data configuration which arranges a retrieval result and can be transmitted to PDA10, and a return is carried out to the Maine flow.

[0078] As mentioned above, it sets in the gestalt of the 1st operation. GPS data the case where there is PDA10 in the train -- the document data created in PDA10 Transmit to a service center 20 through the PHS pin center,large 40, and a service center 20 selects the information about the store (a case in the train gas station) used as the printing candidate location in which the airline printer 30 near PDA10 is installed out of a database 23. The information is transmitted to PDA10. And it becomes possible, if a user specifies a printing location out of the printing candidate location displayed on PDA10 to transmit document data to the appointed airline printer 30 from a service center 20, and to perform a printout.

[0079] In case the printing location which serves as a candidate in a service center 20 is chosen based on the data sent from the [gestalt of the 2nd operation] PDA 10, with the gestalt of the 1st operation Although the positional information (information from GPS3 when [Or] it is in the train) of PDA10 was transmitted to the service center 20 together with document data from PDA10 and the airline printer 30 near the current position of PDA10 (user) was chosen The information about migration schedule locations, such as a visiting place which becomes clear from a user's schedule memorized by PPDA10 with the gestalt of the 2nd operation, to a service center 20 together with document data Delivery, In the service center 20, the airline printer 30 near the migration schedule location was chosen.

[0080] In addition, suppose that it is the same as that of the gestalt of the 1st operation except being related with the matter which chooses a printing candidate location based on the information about the migration schedule location which becomes clear from a user's schedule.

[0081] Drawing 8 is drawing which indicated serially the exchange of the data of Hazama of the airline printer 30 specified by PDA10, a service center 20, and a user until it receives the document printed after the user made the document by PDA10.

[0082] First, a user draws up a document by PDA10 (step P'1). And since the output request for printing the drawn-up document, i.e., a user, outputs a creation document, alter operation is performed (step P'2), and the following schedule information presumed from current time from the schedule data memorized by RAM6 is acquired from input section 14b of PDA10 at this time (step P'3). And the data of the next migration schedule location (for example, the following visiting place) which becomes clear from document data and a schedule are transmitted to a service center 20 through the PHS pin center,large 40 (step P'4).

[0083] A service center 20 receives the data from PDA10 through the communication link unit 21 (step Q'1), and based on the data of the received next migration schedule location, information retrieval equipment 22 searches a database 23, and chooses a printing candidate location (step Q'2). And the data about the selected printing candidate location are transmitted to PDA10 (step Q'3).

[0084] If a printing location is specified from the printing candidate location where PDA10 displays the printing candidate location received from the service center by the display 13 (step P'5), and the user is displayed, the data about the printing location specified from PDA10 will be transmitted to a service center 20 (step P'6).

[0085] If the data about the specified printing location are received (step Q'4), a service center 20 will calculate the password as password data based on the terminal number of PDA10 (step Q'5), will transmit document data and a password to an airline printer 30 through a communication link unit (step Q'6), and will transmit a password to PDA10 (step Q'7). In addition, a configuration which is transmitted to the airline printer 30 which specified document data directly from PDA10 without the service center 20 at this time may be used.

[0086] The specified airline printer 30 receives document data and a password from a service center 20 (step R'1), and carries out the printout of the received document data (step R'2). Moreover, PDA10 receives a password from a service center 20 (step P'7).

[0087] And at the store in which the specified airline printer 30 is installed, printed matter is passed to a user after checking a password (step R'3).

[0088] Drawing 9 is the flow chart of the subroutine performed in case a service center 20 receives the document data (the data about migration locations, such as a visiting place of storage, are included in a schedule) from PDA10 and chooses the printing location candidate of document data (step Q'2).

[0089] In addition, the program which realizes each function indicated to this flow chart is memorized by storage 22e of information retrieval equipment 22 with the gestalt of the program code which CPU22a of the information retrieval equipment 22 of a service center 20 can read.

[0090] A database 23 is searched with step T1 based on the data about migration schedule locations, such as a visiting place which received from PDA10, and it shifts to step T2, and at step T2, it is made the data configuration which arranges a retrieval result and can be transmitted to PDA10, and a return is carried out to step Q'3.

[0091] As mentioned above, the document data created in PDA10 transmit to a service center 20 through the PHS pin center,large 40 with the data about the next migration schedule location which becomes clear from a schedule, and a service center 20 selects the information about the store used as the printing candidate location in which the airline printer 30 near the next migration schedule location has been installed out of a database 23, and transmits the information to PDA10 in the gestalt of the 2nd operation. And it becomes possible, if a user specifies a printing location out of the printing candidate location displayed on PDA10 to transmit document data to the appointed airline printer 30 from a service center 20, and to perform a printout.

[0092]

[Effect of the Invention] According to invention according to claim 1, a data transfer output system The Personal Digital Assistant which has a document composition facility and communication facility, and a monitor means to supervise the positional information of a Personal Digital Assistant, When the airline printer installed in the various stores with which an applicable area is dotted, and which offer printing service of transfer data, the database which memorizes the information about the location of an airline printer, and the document data and the printing demand which were created from the Personal Digital Assistant are transmitted Choose one or more airline printers which search a database based on the positional information of this Personal Digital Assistant from a monitor means, and serve as a candidate of a printing location, and the information about the store in which the selected airline printer is installed is transmitted to this Personal Digital Assistant. By having had the service center which makes the document data transmitted from this Personal Digital Assistant by the airline printer chosen with this Personal Digital Assistant based on the transmitting contents print, a user In case it is going to print the document drawn up with the Personal Digital Assistant, when the document data created from the Personal Digital Assistant are transmitted to a service center, a service center Search from a database the printing candidate location near the location of a Personal Digital Assistant for which were suitable, and the retrieval result is transmitted to a Personal Digital Assistant. If a user specifies a printing location from the printing candidate location transmitted to the Personal Digital Assistant, a service center will be transmitted to the airline printer which had document data specified, and the printout of document data of it will become possible in the appointed airline printer. Consequently, printouts, such as a document drawn up with the Personal Digital Assistant, become possible also in a destination or migration by this data transfer output system.

[0093] According to invention according to claim 5, a data transfer output system The Personal Digital Assistant which has a document composition facility, communication facility, scheduler ability, and a clock function, When the airline printer installed in the various stores with which an applicable area is dotted, and which offer printing service of transfer data, the database which memorizes the information about the location of an airline printer, and the document data and the printing demand which were created from the Personal Digital Assistant are transmitted Choose one or more airline printers which search a database based on the incidental information transmitted from this Personal Digital Assistant, and serve as a candidate of a printing location, and the information about the store in which the selected airline printer is installed is transmitted to this Personal Digital Assistant. By having had the service center which makes the document data transmitted from this Personal Digital Assistant by the airline printer chosen with this Personal Digital Assistant based on the transmitting contents print, a user In case it is going to print the document drawn up with the Personal Digital Assistant, when the document data created from the Personal Digital Assistant are transmitted to a service center with incidental information, a service center Search the printing candidate location in consideration of incidental information from a database, and the retrieval result is transmitted to a Personal Digital Assistant. If a user specifies a printing location from the printing candidate location transmitted to the Personal Digital Assistant, a service center will be transmitted to the airline printer which had document data specified, and the printout of document data of it will become possible in the appointed airline printer. Consequently, printouts, such as a document drawn up with the Personal Digital Assistant in the airline printer installation in consideration of a user's incidental information, become possible by this data transfer output system.

[Translation done.]

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TECHNICAL FIELD

[Field of the Invention] This invention relates to the data transfer output system which makes possible the printout of the document data of a Personal Digital Assistant in the airline printer installed in the various stores with which an area is dotted.

[Translation done.]

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PRIOR ART

[Description of the Prior Art] Recently, PDA (Personal Digital Assistants) which is the small Personal Digital Assistant equipped with functions, such as total tide ability, scheduler ability, a document composition facility, and communication facility (a PHS function, facsimile function, etc.), began to spread, and the user could carry out easily, without time amount and a location influencing creation of schedule management of them, a various kinds of information retrieval or a document, etc., etc. with a Personal Digital Assistant.

[0003] Moreover, PDA is having communication facility, such as a PHS function and a facsimile function, and can also receive offer of the information from a network that an exchange of data with the external device equipped with communication facility and various kinds of information are offered etc. When a PHS function is used, the location add function which carries out updating registration of the own location is equipped, the positional information of PDA is supervised by the PHS service control station which is a key station by the side of PHS, and the location of PDA understands it.

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EFFECT OF THE INVENTION

[Effect of the Invention] According to invention according to claim 1, a data transfer output system The Personal Digital Assistant which has a document composition facility and communication facility, and a monitor means to supervise the positional information of a Personal Digital Assistant, When the airline printer installed in the various stores with which an applicable area is dotted, and which offer printing service of transfer data, the database which memorizes the information about the location of an airline printer, and the document data and the printing demand which were created from the Personal Digital Assistant are transmitted Choose one or more airline printers which search a database based on the positional information of this Personal Digital Assistant from a monitor means, and serve as a candidate of a printing location, and the information about the store in which the selected airline printer is installed is transmitted to this Personal Digital Assistant. By having had the service center which makes the document data transmitted from this Personal Digital Assistant by the airline printer chosen with this Personal Digital Assistant based on the transmitting contents print, a user In case it is going to print the document drawn up with the Personal Digital Assistant, when the document data created from the Personal Digital Assistant are transmitted to a service center, a service center Search from a database the printing candidate location near the location of a Personal Digital Assistant for which were suitable, and the retrieval result is transmitted to a Personal Digital Assistant. If a user specifies a printing location from the printing candidate location transmitted to the Personal Digital Assistant, a service center will be transmitted to the airline printer which had document data specified, and the printout of document data of it will become possible in the appointed airline printer. Consequently, printouts, such as a document drawn up with the Personal Digital Assistant, become possible also in a destination or migration by this data transfer output system.
[0093] According to invention according to claim 5, a data transfer output system The Personal Digital Assistant which has a document composition facility, communication facility, scheduler ability, and a clock function, When the airline printer installed in the various stores with which an applicable area is dotted, and which offer printing service of transfer data, the database which memorizes the information about the location of an airline printer, and the document data and the printing demand which were created from the Personal Digital Assistant are transmitted Choose one or more airline printers which search a database based on the incidental information transmitted from this Personal Digital Assistant, and serve as a candidate of a printing location, and the information about the store in which the selected airline printer is installed is transmitted to this Personal Digital Assistant. By having had the service center which makes the document data transmitted from this Personal Digital Assistant by the airline printer chosen with this Personal Digital Assistant based on the transmitting contents print, a user In case it is going to print the document drawn up with the Personal Digital Assistant, when the document data created from the Personal Digital Assistant are transmitted to a service center with incidental information, a service center Search the printing candidate location in consideration of incidental information from a database, and the retrieval result

is transmitted to a Personal Digital Assistant. If a user specifies a printing location from the printing candidate location transmitted to the Personal Digital Assistant, a service center will be transmitted to the airline printer which had document data specified, and the printout of document data of it will become possible in the appointed airline printer. Consequently, printouts, such as a document drawn up with the Personal Digital Assistant in the airline printer installation in consideration of a user's incidental information, become possible by this data transfer output system.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, the printer by which small Personal Digital Assistants, such as PDA, usually carry out the printout of the data was not equipped, and even if it tended to perform printouts, such as a document drawn up under migration and at a destination, it was not able to be performed easily.

[0005] Then, the technical problem of this invention is to offer the possible data transfer output system of transmitting document data etc. to the airline printer installed in the store where a user specifies the document data created in Personal Digital Assistants, such as PDA, and performing a printout.

[Translation done.]

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MEANS

[Means for Solving the Problem] According to this invention according to claim 1, a data transfer output system The Personal Digital Assistant which has a document composition facility and communication facility, and a monitor means to supervise the positional information of a Personal Digital Assistant, When the airline printer installed in the various stores with which an applicable area is dotted, and which offer printing service of transfer data, the database which memorizes the information about the location of an airline printer, and the document data and the printing demand which were created from the Personal Digital Assistant are transmitted Choose one or more airline printers which search a database based on the positional information of this Personal Digital Assistant from a monitor means, and serve as a candidate of a printing location, and the information about the store in which the selected airline printer is installed is transmitted to this Personal Digital Assistant. By having had the service center which makes the document data transmitted from this Personal Digital Assistant by the airline printer chosen with this Personal Digital Assistant based on the transmitting contents print, a user In case it is going to print the document drawn up with the Personal Digital Assistant, when the document data created from the Personal Digital Assistant are transmitted to a service center, a service center Search from a database the printing candidate location near the location of a Personal Digital Assistant for which were suitable, and the retrieval result is transmitted to a Personal Digital Assistant. If a user specifies a printing location from the printing candidate location transmitted to the Personal Digital Assistant, a service center will be transmitted to the airline printer which had document data specified, and the printout of document data of it will become possible in the appointed airline printer. Consequently, printouts, such as a document drawn up with the Personal Digital Assistant, become possible also in a destination or migration by this data transfer output system.

[0007] According to this invention according to claim 5, a data transfer output system The Personal Digital Assistant which has a document composition facility, communication facility, scheduler ability, and a clock function, When the airline printer installed in the various stores with which an applicable area is dotted, and which offer printing service of transfer data, the database which memorizes the information about the location of an airline printer, and the document data and the printing demand which were created from the Personal Digital Assistant are transmitted Choose one or more airline printers which search a database based on the incidental information transmitted from this Personal Digital Assistant, and serve as a candidate of a printing location, and the information about the store in which the selected airline printer is installed is transmitted to this Personal Digital Assistant. By having had the service center which makes the document data transmitted from this Personal Digital Assistant by the airline printer chosen with this Personal Digital Assistant based on the transmitting contents print, a user In case it is going to print the document drawn up with the Personal Digital Assistant, when the document data created from the Personal Digital Assistant are transmitted to a service center with incidental information, a service center Search the printing candidate location in consideration of incidental information from a database, and the retrieval result is transmitted to a Personal Digital Assistant. If a user specifies a printing location from the printing candidate location transmitted to the Personal Digital Assistant, a service center will be transmitted to the airline printer which had document data specified, and the printout of document data of it will become possible in the appointed airline printer. Consequently, printouts, such as a document drawn up with the Personal Digital Assistant in the airline printer installation in consideration of a user's incidental information, become possible by this data transfer output system.

[0008]

[Embodiment of the Invention] Hereafter, the detail of the gestalt of operation of the data transfer output system concerning this invention is explained, referring to drawing.

[0009] With the gestalt of operation of [gestalt of the 1st operation] **** 1, the PHS pin center,large 40 shall be applied as a Personal Digital Assistant as equipment which supervises the positional information of PDA10 for PDA10 (when there is PDA10 in the train, you may make it grasp the location of PDA by the positional information of the GPS unit 3 in addition).

[0010] First, the configuration of the gestalt of operation of **** 1 is explained.

[0011] Drawing 1 is the block diagram which indicated the outline configuration of the whole data transfer output system concerning the gestalt of operation of **** 1.

[0012] The data transfer output system concerning the gestalt of this operation consists of a base station 41 by the side of the network 24 which connects the electronic control 1 of a vehicle, PDA10, a service center 20 and the airline printer 30 at the various stores which offer printing service, the PHS pin center,large 40, and an airline printer 30 and a service center 20, and the PHS pin center,large 40 etc.

[0013] It is an electronic control about the part concerning the gestalt of operation of this invention of various kinds of electronic controls carried in the vehicle, is the electronic control which carries out supervisory control of the GPS unit 3, and has a data-processing function and the communication facility in a short distance with PDA10 grade, and the electronic control 1 of a vehicle can perform PDA10 and data communication (the detail of the electronic control 1 of a vehicle is indicated to below-mentioned drawing 2).

[0014] PDA (Personal Digital Assistants)10 is the small Personal Digital Assistant which the user who had communication facility, such as a function manager (PIM function), a PHS function, etc. of personal data, such as an entry of data and a document composition facility which can be created, a clock function, and a scheduler, etc. by a key input or the ** N input carries, and is equipped also with communication facility with the electronic control 1 of the vehicle in a short distance (the detail of PDA10 is indicated to below-mentioned drawing 3).

[0015] A service center 20 is equipped with the database 23 of the information about printing service at the various stores in which the airline printer 30 with which an area is dotted was installed, and the store concerned, and chooses the airline printer 30 which was suitable according to the printing demand from a user's PDA10, and a user transmits document data to the airline printer 30 concerned specified out of it, and makes an airline printer 30 print it (the detail of a service center 20 is indicated to below-mentioned drawing 4). Moreover, a service center 20 creates password data and transmits them to the both sides of PDA10 and an airline printer 30.

[0016] It is equipment which an airline printer 30 is installed in the various stores (for example, a convenience store, a gas station, etc.) which offer the printing service with which an area is dotted, and receives and carries out the printout of the print data from a user. At this time, the print data sent to the PHS pin center,large 40 from PDA10 It is transmitted to an airline printer (or direct [without going]) 30 via a service center 20 from the PHS pin center,large 40 (at this time, password data are sent to PDA10 and an airline printer 30 from a service center 20, respectively). And the user who ordered printing service pays a regular tariff to the store concerned, and receives at it the document by which the printout was carried out. However, in creating password data, it checks whether the password data (password etc.) which the airline printer 30 and user side of PDA10 received from the service center 20, respectively are in agreement in the case of delivery.

[0017] The PHS pin center,large 40 is a PHS service control station used as the key station of the base station 41 installed in order to receive the electric wave from PDA10. [many] Supervise the positional information of PDA10 which is a Personal Digital Assistant by the location add function which is one of the network functions of PHS, and the base station 41 by which distributed installation is carried out is minded. The received data from PDA10 are transmitted to a service center 20, and transmission or the data from a service center 20 is transmitted to PDA10 (however, you may make it transmit print data to an airline printer 30 directly, without transmitting to a service center 20).

[0018] Drawing 2 is the block diagram which indicated the outline of the configuration of the electronic control 1 of the vehicle which is one of the data transfer output structure-of-a-system elements concerning the gestalt of this operation.

[0019] The electronic control 1 of a vehicle consists of stores 8, the communications departments 9, etc. having CPU2, the GPS unit 3, a display 4, the input section 5, RAM6 and ROM7, and storage 8a, and each of these components are mutually connected through Buss 1a.

[0020] CPU (Central Processing Unit)2 The application program specified out of the various application programs corresponding to the system program memorized by storage 8 and the system program concerned is stored in the program storage area in RAM6. The various directions or data inputted from the GPS unit 3, the input section 5, and (minding the communications department 9) PDA10 is stored in RAM6. While performing various processings according to the application program stored in storage 8 according to this input directions or input data and storing that processing result in RAM6, the transmit data to PDA10 is transmitted to the communications department 9.

[0021] The GPS unit (Global Positioning System Unit) 3 With the equipment which receives the electric wave from a geostationary satellite (at least three or more) with the exclusive antenna installed in the vehicle, and performs calculation of the location (LONG, LAT) of a vehicle, calculation of the optimal route to the destination, calculation of the distance to the destination, etc. That calculation result (this calculation result is hereafter described as GPS information) is sent to CPU2, and CPU2 memorizes the data about the received calculation result to RAM6. Moreover, the GPS unit has attached the display which is the image display device which performs a CRT display and a LCD display, and usually displays it visually with the map which carried out image display of the above-mentioned calculation result on the screen. Moreover, the above-mentioned calculation result is transmitted to PDA10 by the communications department 9 if needed (to demand [PDA /10]).

[0022] In addition, GPS unit 3 the very thing is equipped with CPU, RAM, ROM, etc. of dedication, and CPU2 usually has the composition that only an operation command or the sending-out command of result-of-an-operation data receives delivery and the result of an operation, and is memorized to RAM6, to CPU of dedication.

[0023] A display 4 is constituted by the image display device which performs a CRT display and a LCD display, and displays calculation results, such as a location (LONG, LAT) of a vehicle by the GPS unit 3, optimal route to the destination, and distance to the destination.

[0024] The input section 5 is the input section which inputs directions of the display change in the various entries of data and displays 4 to the GPS unit 3, such as initialization data, etc.

[0025] RAM (Ramdom Access Memory)6 consists of a storage region which memorizes temporarily the various programs in which data processing is carried out by CPU2, data, etc., and memorized read-out of various programs, data, etc. is also performed.

[0026] The data about the GPS information (the location of a vehicle, the optimal route to the destination, distance to the destination, etc.) from the GPS unit 3 etc. are temporarily memorized by RAM6.

[0027] ROM (Read Only Memory)7 is read-only memory which reads the data stored by the directions from CPU2, and the exclusive program which processes the various data about the supervisory control of a vehicle is memorized.

[0028] The store 8 has storage 8a a program, data, etc. are remembered to be, and this storage 8a is constituted by magnetic, an optical storage medium, or semiconductor memory. Moreover, storage 8 is equipped with storage 8a free [the thing prepared fixed or attachment and detachment].

[0029] To this storage, a system program and the various application programs corresponding to the system program concerned, various entry-of-data processings, communications processing, detection processing, the data processed with each processing program are memorized.

[0030] In addition, the program memorized to this storage 8, data, etc. may make the configuration which receives and memorizes from other devices connected through the communication line etc., may form the store which equipped with the above-mentioned storage further other devices side connected through the communication line etc., and may make it the program memorized by this storage and the configuration which use data through a communication line.

[0031] The communications department 9 is a communication device for performing a communication link (for example, infrared ray communication) in PDA10 and the short distance which a user carries, and transmits the signal (for example, signal of the contents that a transmitting agency is a vehicle) which specifies a transmitting agency to PDA10.

[0032] Drawing 3 is the block diagram which indicated the outline of the configuration of PDA (Personal Digital Assistants)10 which is one of the data transfer output structure-of-a-system elements concerning the gestalt of operation of **** 1.

[0033] PDA10 consists of stores 17, the communications departments 18, etc. having CPU11, the PHS unit 12, a display 13, clock section 14a, input section 14b, RAM15 and ROM16, and storage 17a, and each of these components are mutually connected through Buss 10a.

[0034] CPU (Central Processing Unit)11 The application program specified out of the various application programs corresponding to the system program memorized by storage 17 and the system program concerned is stored in the program storage area in RAM15. Section 14a, input section 14b, the electronic control 1 of a vehicle (minding the communications department 18), and a base station 41 are minded. the PHS unit 12 and a time check -- PHS40 The various directions or data inputted is stored in RAM15. (Namely, service center 20) etc. -- from -- While performing various processings according to the application program stored in storage 17 according to this input directions or input data and storing that processing result in RAM15 The data (document data, printing requested data, etc.) transmitted to a service center 20 are read from RAM15, and are inputted into the PHS unit 12. Moreover, the transmit data to the electronic control 1 of a vehicle is read from RAM15, and is inputted into the communications department 18.

[0035] The PHS unit (Personal Handy-phone System Unit) 12 is equipment which transmits the data (document data, printing requested data, etc.) inputted from CPU11 from miniaturized antenna 12a of an attachment with the electric-wave gestalt based on the communications protocol of PHS to the external base transceiver station 41.

[0036] A display 13 is equipment which displays the various data which are equipped with the display screen in which a LCD display and a CRT display are possible, and are inputted from CPU11 in the display screen.

[0037] Clock section 14a is equipment equipped with total tide ability, when the information about the time of day clocked is displayed in a display 13 and CPU11 performs input of the data (for example, data about a schedule etc.) accompanied by time information, preservation, etc., the information about time of day is inputted into CPU11 from clock section 14a, and CPU11 performs said actuation based on the inputted time information.

[0038] Input section 14b consists of the display screens (it is almost the case that the display screen in this case is the display screen in a display 13) for performing various kinds of function keys and pen inputs etc., is the input unit which performs the data input about a schedule etc., the input of various kinds of retrieval commands, various kinds of setting inputs of PDA10, etc., and outputs a key input and the signal by which the pen input was carried out to CPU11 by a key input or the pen input (handwriting recognition with a pen is included).

[0039] RAM (Ramdom Access Memory)15 consists of a storage region which memorizes temporarily the various programs in which data processing is carried out by CPU11, data, etc., and memorized read-out of various programs, data, etc. is also performed.

[0040] A processing result, schedule data, etc. which were processed according to the program code which the input directions or the input data from input section 14b and the various data (password data are included) sent from service center 20 grade through the PHS unit 12, and CPU11 read from storage 17a to RAM15 are memorized temporarily.

[0041] ROM (Read Only Memory)16 is read-only memory which reads the data stored by the directions from CPU2.

[0042] It has storage 17a a store 17, a program, data, etc. are remembered to be, and this storage 17a is constituted by magnetic, an optical storage medium, or semiconductor memory. Moreover, storage 17 is equipped with storage 17a free [the thing prepared fixed or attachment and detachment].

[0043] To this storage, the data (schedule data are included) processed with a system program and the various application programs corresponding to the system program concerned, a display process, communications processing, input process, and each processing program are memorized.

[0044] In addition, the program memorized to this storage 17, data, etc. may make the configuration which receives and memorizes from other devices connected through the communication line etc., may form the store which equipped with the above-mentioned storage further other devices side connected through the communication line etc., and may make it the program memorized by this storage and the configuration which use data through a communication line.

[0045] The communications department 18 is a communication device for performing a communication link (for example, infrared ray communication) in the communications department 9 and the short distance of an electronic control 1 of a vehicle. When a user carries PDA10 and takes a vehicle, PDA10 detects that the user rode in the vehicle by the communications department 18 receiving the signal (for example, signal of the contents that it is a vehicle) transmitted from the communications department 9 of an electronic control 1, and transmitting the received signal to CPU11.

[0046] Drawing 4 is the block diagram which indicated the outline of the configuration of the service center 20 which is one of the data transfer output structure-of-a-system elements concerning the gestalt of this operation.

[0047] The service center 20 consists of a communication link unit 21, information retrieval equipment 22, a database 23, etc.

[0048] The communication link unit 21 receives the document data transmitted through the PHS pin center,large 40 from PDA10, and the data (positional information by the GPS unit 3 when it is in the train) about the location of PDA10, and inputs the received data into information retrieval equipment 22. Moreover, the data which information retrieval equipment 22 searched, the created password data are transmitted to PDA10 or an airline printer 30 through the communication link unit 21.

[0049] Information retrieval equipment 22 consists of 22d of stores which have CPU22a, RAM22b, ROM22c, and storage 22e etc. inside, and each of these components are mutually connected through Buss 22f.

[0050] CPU(Central Processing Unit)22a The application program specified out of the various application programs corresponding to the system program memorized by 22d of storage and the system program concerned is stored in the program storage area in RAM22b. The various directions or data inputted is stored in RAM22b. the communication link unit 21 and a database 23 -- since -- While performing various processings according to the application program stored in 22d of storage according to this input directions or input data and storing that processing result in RAM22b The data transmitted to PDA10 or an airline printer 30 are read from RAM22b, and are outputted to the communication link unit 21.

[0051] Moreover, CPU22a searches a database 23 based on the data about the location of PDA10 inputted through the communication link unit 21, extracts the information about the store in which the airline printer 30 near PDA10 (namely, user) was installed from a database 23 (at this time, when there is PDA10 in the train, a gas station is extracted as a store), and outputs the extracted data to the communication link unit 21. Moreover, if the information about the airline printer 30 specified by the user whom the communication link unit 21 received from PDA10 is inputted, password data, such as a password, will be created and document data and password data will be outputted to the communication link unit 21.

[0052] RAM(Ramdom Access Memory)22b consists of a storage region which memorizes temporarily the various programs in which data processing is carried out by CPU22a, data, etc., and memorized read-out of various programs, data, etc. is also performed.

[0053] The input data from the communication link unit 21, the output data from the communication link unit 21, the data CPU22a carried out [data etc.] the retrieval extract from the database 23 according to the program code read from storage 22e are temporarily memorized by RAM22b.

[0054] ROM (Read Only Memory)16 is read-only memory which reads the data stored by the directions from CPU22a.

[0055] 22d of stores has storage 22e a program, data, etc. are remembered to be, and this storage 22e is constituted by magnetic, an optical storage medium, or semiconductor memory. Moreover, 22d of storage is equipped with storage 22e free [the thing prepared fixed or attachment and detachment].

[0056] To this storage, the data processed with a system program and the various application programs corresponding to the system program concerned, communications processing, input process, retrieval processing, and each processing program are memorized.

[0057] In addition, the program memorized to this storage 22e, data, etc. may make the configuration which receives and memorizes from other devices connected through the communication line etc., may form the store which equipped with the above-mentioned storage further other devices side connected through the communication line etc., and may make it the program memorized by this storage and the configuration which use data through a communication line.

[0058] A database 23 is the assembly of the data file by which the information about printing service at the various stores (for example, the convenience store and gas station of a neighboring area) and the applicable store in which the airline printer 30 which a service center 20 offers is installed was integrated.

[0059] Drawing 5 is drawing which indicated the example of the file content stored in the database 23 of a service center 20.

[0060] A file content given in drawing 5 is the information about printing service at the various stores which install an airline printer 30 and offer printing service, and the store concerned.

[0061] In the item of a tariff, data concerning [the data about a classification (for example the class X is a convenience store-related store, and Class Y is a gas station-related store etc.) according / data concerning / data concerning / data concerning a store name in the item of an output destination change / the address of the store concerned in the item of a location / the tariff per printed matter / to the contents of operating of the store concerned] the business hours of the store concerned are memorized by the item of the utilization time at the item of a class, respectively.

[0062] For example, if it looks at concretely about the data of A store, the address of A store is x division xx2-1, a printing tariff is 10 yen per sheet, and the contents of operating of a store are classified into Class X (convenience store), and do business for 24 hours.

[0063] Next, an operation of the gestalt of this operation is explained.

[0064] Drawing 6 is drawing which indicated serially the exchange of the data of Hazama of the airline printer 30 specified by PDA10, a service center 20, and a user until it receives the document printed after the user made the document by PDA10.

[0065] First, a user draws up a document by PDA10 (step P1). And since the output request for printing the drawn-up document, i.e., a user, outputs a creation document, when alter operation is performed (step P2) and there is PDA10 in the train from input section 14b of PDA10 at this time, GPS information is acquired from the electronic control 1 of a vehicle (step P3). and GPS data the case where PDA10 is in the train -- also transmit document data to a service center 20 through the PHS pin center,large 40 (step P4).

[0066] A service center 20 receives the data from PDA10 through the communication link unit 21 (step Q1), and based on the positional information (it is GPS information when PDA10 is in the train) of PDA10 which received, information retrieval equipment 22 searches a database 23, and chooses a printing candidate location (step Q2). And the data about the selected printing candidate location are transmitted to PDA10 (step Q3).

[0067] If a printing location is specified from the printing candidate location where PDA10 displays the printing candidate location received from the service center by the display 13 (step P5), and the user is displayed, the data about the printing location specified from PDA10 will be transmitted to a service center 20 (step P6).

[0068] If the data about the specified printing location are received (step Q4), a service center 20 will calculate the password as password data based on the terminal number of PDA10 (step Q5), will transmit document data and a password to an airline printer 30 through a communication link unit (step Q6), and will transmit a password to PDA10 (step Q7). In addition, a configuration which is transmitted to the airline printer 30 which specified document data directly from PDA10 without the service center 20 at this time may be used.

[0069] The specified airline printer 30 receives document data and a password from a service center 20 (step R1), and carries out the printout of the received document data (step R2). Moreover, PDA10 receives a password from a service center 20 (step P7).

[0070] And at the store in which the specified airline printer 30 is installed, printed matter is passed to a user after checking a password (step R3).

[0071] Drawing 7 is the flow chart of the subroutine performed in case a service center 20 receives the document data (GPS data are included) from PDA10 and chooses the printing location candidate of document data.

[0072] In addition, the program which realizes each function indicated to this flow chart is memorized by storage 22e of information retrieval equipment 22 with the gestalt of the program code which CPU22a of the information retrieval equipment 22 of a service center 20 can read.

[0073] First, in step S1, current time amount is investigated and it shifts to step S2. At step S2, the store which is offering printing service to the current time amount used as the output destination change of document data is selected, and it shifts to step S3.

[0074] At step S3, when a service center 20 distinguishes whether the data about GPS are received from PDA10 and the data about GPS are received, it shifts to step S4, and when the data about GPS are not received, it shifts to step S5.

[0075] In step S4, since there will be a user who is carrying PDA10 in the train when the data about GPS3 are received, the information about the store (gas station) of the class Y which is offering printing service in the database 23 is given priority to and retrieved, and it shifts to step S6.

[0076] At step S5, when the data about GPS3 are not received, based on the positional information of PHS, i.e., the positional information in which a user is, the information about the store which is offering printing service which is in near in a database 23 is retrieved, and it shifts to step S6.

[0077] At step S6, it is made the data configuration which arranges a retrieval result and can be transmitted to PDA10, and a return is carried out to the Maine flow.

[0078] As mentioned above, it sets in the gestalt of the 1st operation. GPS data the case where there is PDA10 in the train -- the document data created in PDA10 Transmit to a service center 20 through the PHS pin center,large 40, and a service center 20 selects the information about the store (a case in the train gas station) used as the printing candidate location in which the airline printer 30 near PDA10 is installed out of a database 23. The information is transmitted to PDA10. And it becomes possible, if a user specifies a printing location out of the printing candidate location displayed on PDA10 to transmit document data to the appointed airline printer 30 from a service center 20, and to perform a printout.

[0079] In case the printing location which serves as a candidate in a service center 20 is chosen based on the data sent from the [gestalt of the 2nd operation] PDA 10, with the gestalt of the 1st operation Although the positional information (information from GPS3 when [Or] it is in the train) of PDA10 was transmitted to the service center 20 together with document data from PDA10 and the airline printer 30 near the current position of PDA10 (user) was chosen The information about migration schedule locations, such as a visiting place which becomes clear from a user's schedule memorized by PPDA10 with the gestalt of the 2nd operation, to a service center 20 together with document data Delivery, In the service center 20, the airline printer 30 near the migration schedule location was chosen.

[0080] In addition, suppose that it is the same as that of the gestalt of the 1st operation except being related with the matter which chooses a printing candidate location based on the information about the migration schedule location which becomes clear from a user's schedule.

[0081] Drawing 8 is drawing which indicated serially the exchange of the data of Hazama of the airline printer 30 specified by PDA10, a service center 20, and a user until it receives the document printed after the user made the document by PDA10.

[0082] First, a user draws up a document by PDA10 (step P'1). And since the output request for printing the drawn-up document, i.e., a user, outputs a creation document, alter operation is performed (step P'2), and the following schedule information presumed from current time from the schedule data memorized by RAM6 is acquired from input section 14b of PDA10 at this time (step P'3). And the data of the next migration schedule location (for example, the following visiting place) which becomes clear from document data and a schedule are transmitted to a service center 20 through the PHS pin center,large 40 (step P'4).

[0083] A service center 20 receives the data from PDA10 through the communication link unit 21 (step Q'1), and based on the data of the received next migration schedule location, information retrieval equipment 22 searches a database 23, and chooses a printing candidate location (step Q'2). And the data about the selected printing candidate location are transmitted to PDA10 (step Q'3).

[0084] If a printing location is specified from the printing candidate location where PDA10 displays the printing candidate location received from the service center by the display 13 (step P'5), and the user is displayed, the data about the printing location specified from PDA10 will be transmitted to a service center 20 (step P'6).

[0085] If the data about the specified printing location are received (step Q'4), a service center 20 will calculate the password as password data based on the terminal number of PDA10 (step Q'5), will transmit document data and a password to an airline printer 30 through a communication link unit (step Q'6), and will transmit a password to PDA10 (step Q'7). In addition, a configuration which is transmitted to the airline printer 30 which specified document data directly from PDA10 without the service center 20 at this time may be used.

[0086] The specified airline printer 30 receives document data and a password from a service center 20 (step R'1), and carries out the printout of the received document data (step R'2). Moreover, PDA10 receives a password from a service center 20 (step P'7).

[0087] And at the store in which the specified airline printer 30 is installed, printed matter is passed to a user after checking a password (step R'3).

[0088] Drawing 9 is the flow chart of the subroutine performed in case a service center 20 receives the document data (the data about migration locations, such as a visiting place of storage, are included in a schedule) from PDA10 and chooses the printing location candidate of document data (step Q'2).

[0089] In addition, the program which realizes each function indicated to this flow chart is memorized by storage 22e of information retrieval equipment 22 with the gestalt of the program code which CPU22a of the information retrieval equipment 22 of a service center 20 can read.
[0090] A database 23 is searched with step T1 based on the data about migration schedule locations, such as a visiting place which received from PDA10, and it shifts to step T2, and at step T2, it is made the data configuration which arranges a retrieval result and can be transmitted to PDA10, and a return is carried out to step Q'3.
[0091] As mentioned above, the document data created in PDA10 transmit to a service center 20 through the PHS pin center,large 40 with the data about the next migration schedule location which becomes clear from a schedule, and a service center 20 selects the information about the store used as the printing candidate location in which the airline printer 30 near the next migration schedule location has been installed out of a database 23, and transmits the information to PDA10 in the gestalt of the 2nd operation. And it becomes possible, if a user specifies a printing location out of the printing candidate location displayed on PDA10 to transmit document data to the appointed airline printer 30 from a service center 20, and to perform a printout.

[Translation done.]

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3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the block diagram which indicated the outline configuration of the whole data transfer output system concerning the gestalt of this operation.
[Drawing 2] It is the block diagram which indicated the outline of the configuration of the electronic control 1 of the vehicle which is one of the data transfer output structure-of-a-system elements concerning the gestalt of this operation.
[Drawing 3] It is the block diagram which indicated the outline of the configuration of PDA (Personal Digital Assistants)10 which is one of the data transfer output structure-of-a-system elements concerning the gestalt of this operation.
[Drawing 4] It is the block diagram which indicated the outline of the configuration of the service center 20 which is one of the data transfer output structure-of-a-system elements concerning the gestalt of this operation.
[Drawing 5] It is drawing which indicated the example of the file content stored in the database 21 of a service center 20.
[Drawing 6] It is drawing which indicated serially the exchange of the data of Hazama of the airline printer 30 specified by PDA10, a service center 20, and a user until it receives the document printed after the user made the document by PDA10.
[Drawing 7] It is the flow chart of the subroutine performed in case a service center 20 receives the document data (GPS data are included) from PDA10 and chooses the printing location candidate of document data.
[Drawing 8] It is drawing which indicated serially the exchange of the data of Hazama of the airline printer 30 specified by PDA10 and the service center 20 in connection with the gestalt of the 2nd operation, and a user until it receives the document printed after the user made the document by PDA10.
[Drawing 9] It is the flow chart of the subroutine performed in case a service center 20 receives the document data (the data about migration locations, such as a visiting place of storage, are included in a schedule) from PDA10 and chooses the printing location candidate of document data.
[Description of Notations]
1 Electronic Control of Vehicle
2 CPU (Involved in Electronic Control 1 of Vehicle)
3 GPS Unit
4 Display
5 Input Section
6 RAM (Involved in Electronic Control 1 of Vehicle)
7 ROM (Involved in Electronic Control 1 of Vehicle)
8 Storage (Involved in Electronic Control 1 of Vehicle)

8a Storage (involved in the electronic control 1 of a vehicle)
9 Communications Department (Involved in Electronic Control 1 of Vehicle)
10 PDA
11 CPU (Involved in PDA10)
12 PHS Unit
13 Display
14a a time check -- the section
14b Input section
15 RAM (Involved in PDA10)
16 ROM (Involved in PDA10)
17 Storage (Involved in PDA10)
17a Storage (involved in PDA10)
18 Communications Department (Involved in PDA10)
20 Information Service Center
21 Communication Link Unit
22 Information Retrieval Equipment
22a CPU
22b RAM (involved in PDA10)
22c ROM (involved in PDA10)
22d Storage (involved in PDA10)
22e Storage (involved in PDA10)
23 Database
24 Network
30 Airline Printer
40 PHS Pin Center,large
41 Base Transceiver Station

[Translation done.]

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damages caused by the use of this translation.

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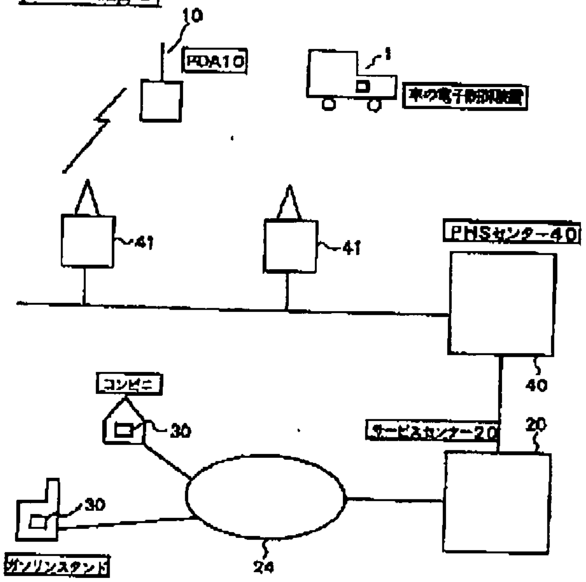
3.In the drawings, any words are not translated.

DRAWINGS

[Drawing 1]

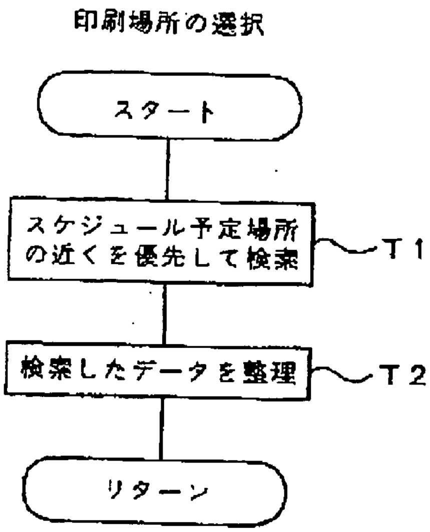


[Drawing 5]

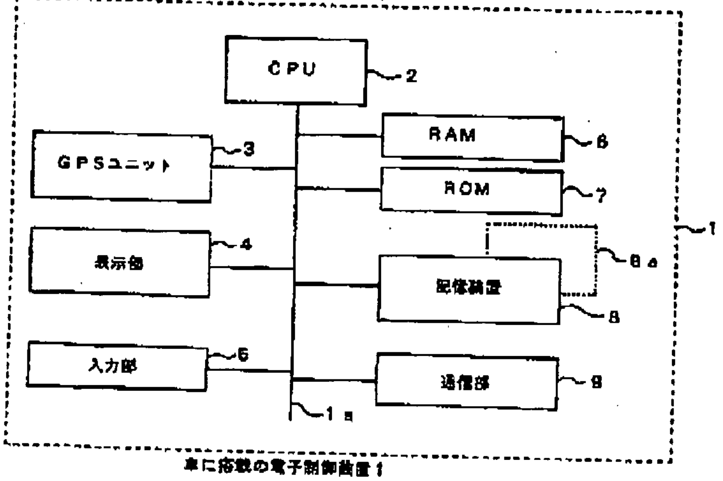
出力先	場所	料金	種類	利用時間
Aストア	×区××2−1	¥10／1枚	X	24時間
B給油所	×区××	¥12／1枚	Y	10−22
C本店	×区××	¥15／1枚	Z	9−20

データベース23のファイル内容

[Drawing 9]

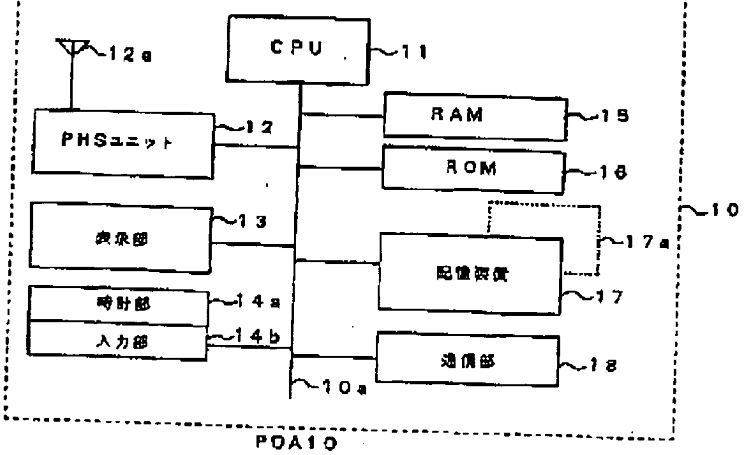

印刷場所の選択
スタート
スケジュール予定場所の近くを優先して検索
T 1
検索したデータを整理
T 2
リターン

[Drawing 2]


CPU
2
GPSユニット
3
RAM
6
ROM
7
表示部
4
8 a
1
記憶装置
8
入力部
5
通信部
9
1 a

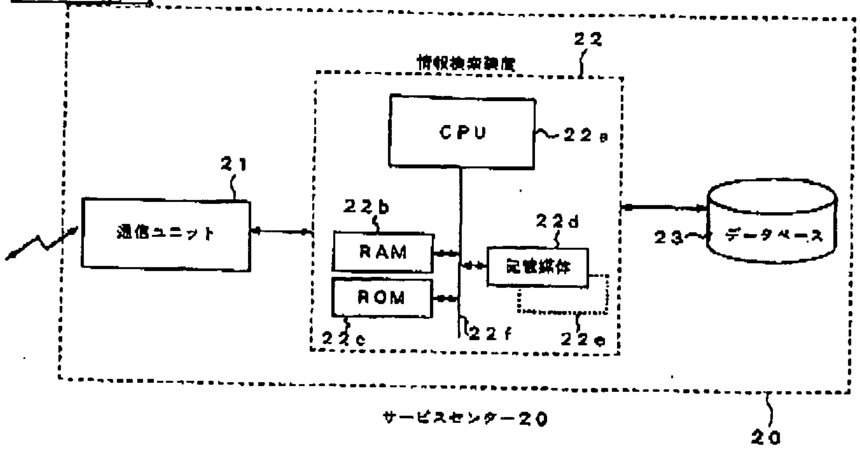
車に搭載の電子制御装置 1

[Drawing 3]

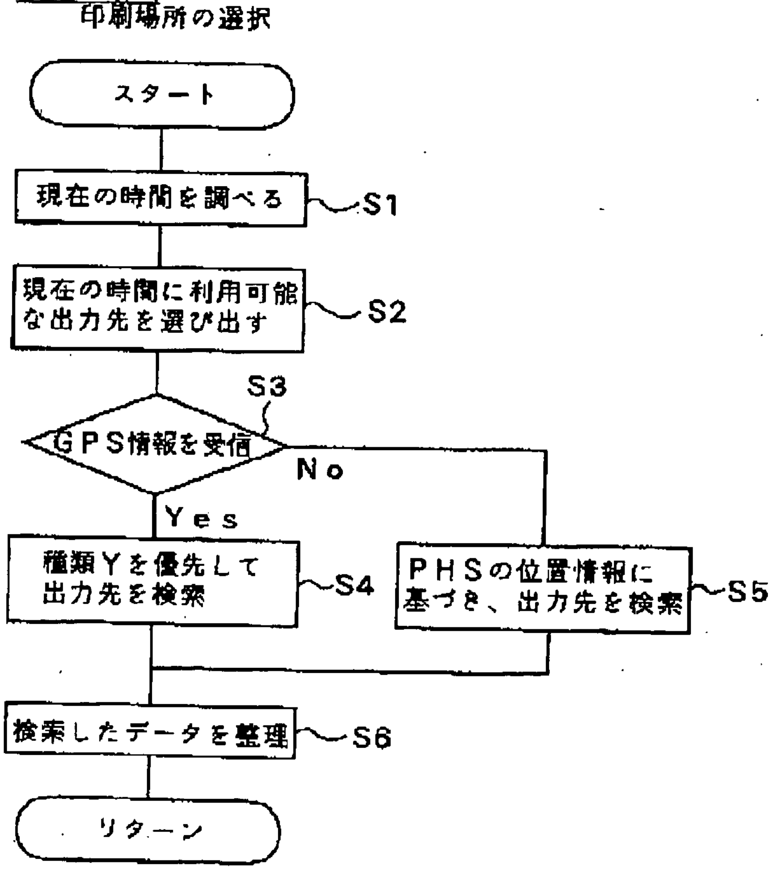

12 a
CPU
11
PHSユニット
12
RAM
15
ROM
16
表示部
13
17 a
10
記憶装置
17
時計部
14 a
入力部
14 b
通信部
18
10 a

PDA10

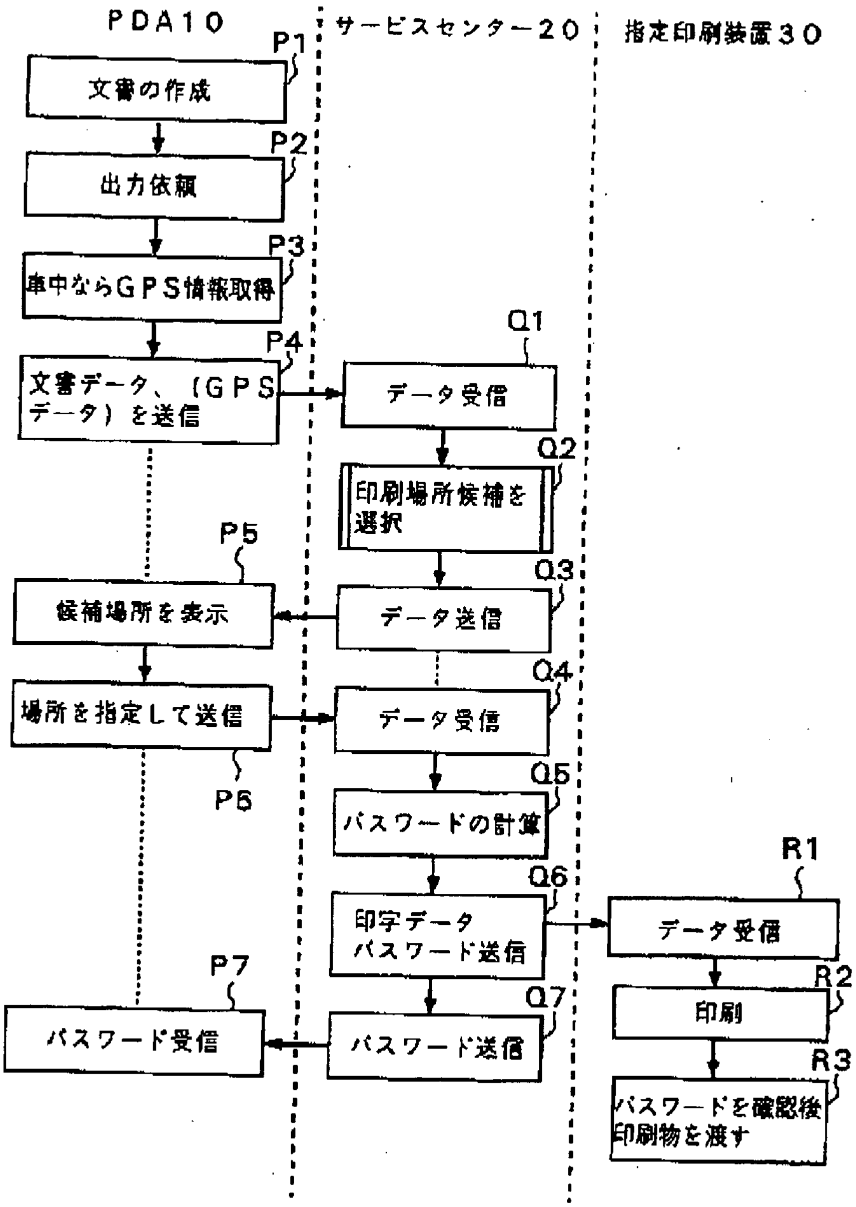
[Drawing 4]


22
情報検索装置
CPU
22a
21
通信ユニット
22b
RAM
ROM
22c
22f
22d
記憶媒体
22e
23
データベース
サービスセンター20
20

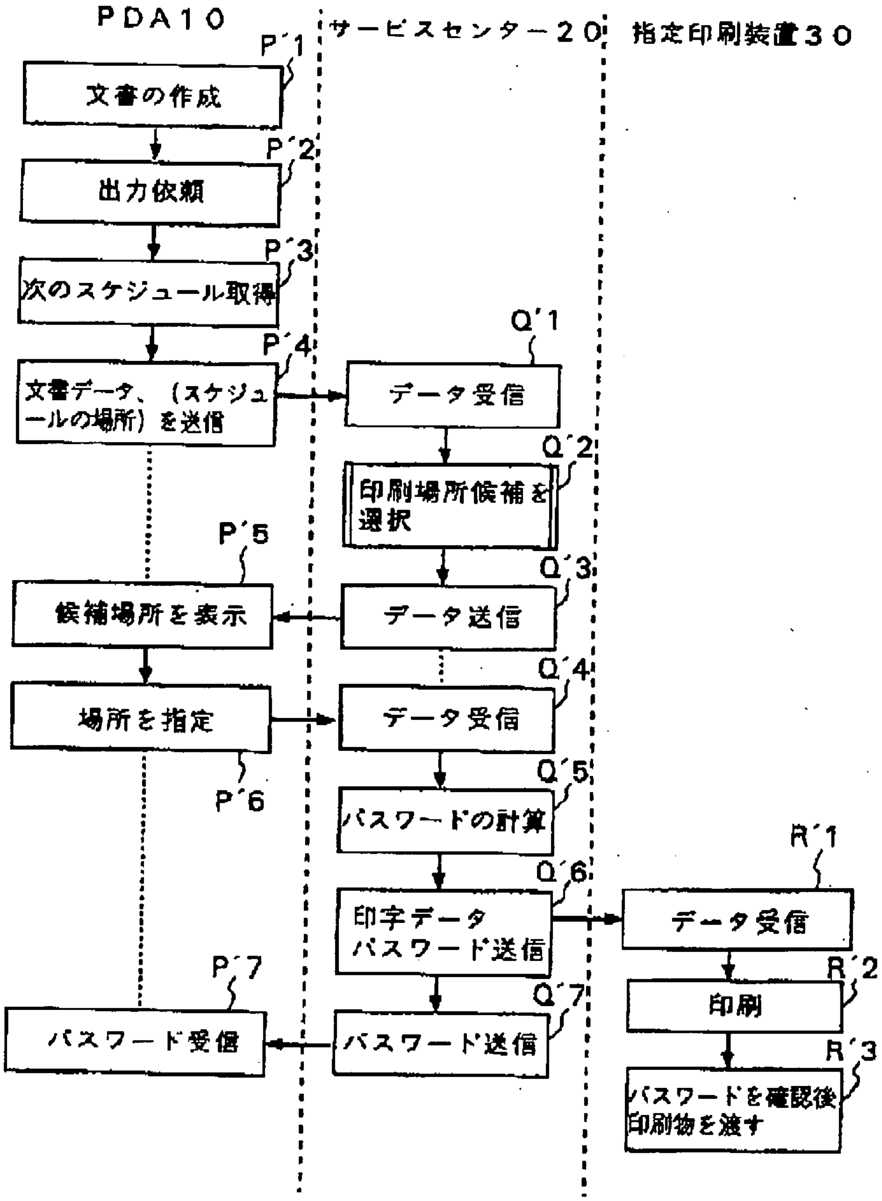
[Drawing 7]


印刷場所の選択
スタート
現在の時間を調べる
S1
現在の時間に利用可能な出力先を選び出す
S2
S3
GPS情報を受信
No
Yes
種類Yを優先して出力先を検索
S4
PHSの位置情報に基づき、出力先を検索
S5
検索したデータを整理
S6
リターン

[Drawing 6]


ＰＤＡ１０
サービスセンター２０
指定印刷装置３０
P1
文書の作成
P2
出力依頼
P3
車中ならＧＰＳ情報取得
P4
文書データ、（ＧＰＳデータ）を送信
Q1
データ受信
Q2
印刷場所候補を選択
Q3
データ送信
P5
候補場所を表示
場所を指定して送信
P6
Q4
データ受信
Q5
パスワードの計算
Q6
印字データ
パスワード送信
R1
データ受信
R2
印刷
R3
パスワードを確認後印刷物を渡す
P7
パスワード受信
Q7
パスワード送信

[Drawing 8]


PDA10
サービスセンター２０
指定印刷装置３０
P'1
文書の作成
P'2
出力依頼
P'3
次のスケジュール取得
P'4
文書データ、（スケジュールの場所）を送信
Q'1
データ受信
Q'2
印刷場所候補を選択
Q'3
データ送信
P'5
候補場所を表示
Q'4
データ受信
場所を指定
P'6
Q'5
パスワードの計算
Q'6
印字データ
パスワード送信
R'1
データ受信
R'2
印刷
R'3
パスワードを確認後印刷物を渡す
P'7
パスワード受信
Q'7
パスワード送信

[Translation done.]

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CORRECTION OR AMENDMENT

[Kind of official gazette] Printing of amendment by the convention of 2 of Article 17 of Patent Law
[Section partition] The 3rd partition of the 7th section
[Publication date] December 21, Heisei 13 (2001. 12.21)

[Publication No.] JP,10-191453,A
[Date of Publication] July 21, Heisei 10 (1998. 7.21)
[Annual volume number] Open patent official report 10-1915
[Application number] Japanese Patent Application No. 8-343834
[The 7th edition of International Patent Classification]

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H04Q   7/38
G06F  13/00    355
17/60
H04N   1/00
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[FI]

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H04B   7/26    109 M
G06F  13/00    355
H04N   1/00        C
G06F  15/21        Z
```

[Procedure revision]
[Filing Date] March 7, Heisei 13 (2001. 3.7)
[Procedure amendment 1]
[Document to be Amended] Specification
[Item(s) to be Amended] The name of invention
[Method of Amendment] Modification
[Proposed Amendment]
[Title of the Invention] A data transfer output system and service center equipment
[Procedure amendment 2]
[Document to be Amended] Specification
[Item(s) to be Amended] Claim
[Method of Amendment] Modification
[Proposed Amendment]
[Claim(s)]
[Claim 1] The information terminal which has communication facility,
The database which memorizes the information about the address of the various stores in which the

airline printer was installed,

It is the service center which makes the print data transmitted from said information terminal print with said airline printer. A selection means to choose one or more stores which search said database based on the positional information of the information terminal concerned to the printing demand from said information terminal, and serve as a candidate of a printing location, By specifying a store at an information terminal to the store information which a store information transmitting means to transmit the information about the store which this selection means chose to an information terminal, and this store information transmitting means transmitted The service center which has a transfer means to transmit the print data from said information terminal in order to make it print with the airline printer installed in the store,

The data transfer output system characterized by preparation ******.

[Claim 2] Said service center is a data transfer output system according to claim 1 characterized by having a password data generation means and a password data transmitting means to transmit the password data generated with this password data generation means to said airline printer and information terminal.

[Claim 3] Said information terminal has the function to transmit incidental information to said service center further,

Said service center is a data transfer output system according to claim 1 or 2 characterized by choosing the store which considers said incidental information and has said airline printer.

[Claim 4] Said incidental information is the information about whether said information terminal is in a vehicle, and said some of airline printers are arranged in a gas station,

It is the data transfer output system according to claim 3 characterized by said service center choosing a gas station as a candidate store when there is said information terminal in the train.

[Claim 5] The information terminal which has communication facility and scheduler ability,

The database which memorizes the information about the address of the various stores in which the airline printer was installed,

It is the service center which makes the print data transmitted from said information terminal print with said airline printer. A selection means to choose one or more stores which search said database to the printing demand from said information terminal based on the incidental information transmitted from the information terminal concerned, and serve as a candidate of a printing location, By specifying a store at an information terminal to the store information which a transmitting means to transmit the information about the store which this selection means chose to an information terminal, and this transmitting means transmitted The service center which has a transfer means to transmit the print data from said information terminal in order to make it print with the airline printer installed in the store,

The data transfer output system characterized by preparation ******.

[Claim 6] Said service center is a data transfer output system according to claim 5 characterized by having a password data generation means and a password data transmitting means to transmit the password data generated with this password data generation means to said airline printer and information terminal.

[Claim 7] Said incidental information is those with schedule information which the scheduler ability of said information terminal manages,

The selection means of said service center is a data transfer output system according to claim 5 or 6 characterized by choosing the store near the schedule schedule location.

[Claim 8] A reception means to receive the printing demand of data from an information terminal,

A retrieval means to search with a database the store equipped with the airline printer which can receive and print data through a network by receiving the printing demand of data with this reception means,

A transmitting means to transmit the store information retrieved with this retrieval means to said

information terminal,
The control means which makes the data outputted from an information terminal at that specified store by specifying a store at said information terminal to the store information transmitted by this transmitting means print,
Service center equipment characterized by ****(ing).
[Claim 9] Said retrieval means is service center equipment according to claim 8 characterized by choosing an available store based on the location of an information terminal.
[Claim 10] Said retrieval means is service center equipment according to claim 8 characterized by choosing an available store based on a user's schedule information which the information terminal has.

[Claim 11] Said retrieval means is service center equipment according to claim 8 characterized by choosing an available store based on the time amount which received the printing demand.
[Claim 12] Service center equipment of any one publication to claims 8-11 characterized by containing the use tariff of printing in store information.
[Claim 13] Service center equipment of any one publication to claims 8-11 characterized by having a means to generate the password for delivery of printed matter.
[Claim 14] Said control means is service center equipment of any one publication to claims 8-11 characterized by having a transfer means to transmit to the airline printer of the store which had the print data outputted from the information terminal specified.
[Procedure amendment 3]
[Document to be Amended] Specification
[Item(s) to be Amended] 0001
[Method of Amendment] Modification
[Proposed Amendment]
[0001]
[Field of the Invention] This invention relates to the data transfer output system and service center equipment which make possible the printout of the print data outputted from the information terminal in the airline printer installed in the various stores with which an area is dotted.
[Procedure amendment 4]
[Document to be Amended] Specification
[Item(s) to be Amended] 0005
[Method of Amendment] Modification
[Proposed Amendment]
[0005] Then, the technical problem of this invention is to offer the possible data transfer output system of performing a printout in the airline printer installed in the store where a user specifies the print data which information terminals, such as PDA, hold.
[Procedure amendment 5]
[Document to be Amended] Specification
[Item(s) to be Amended] 0006
[Method of Amendment] Modification
[Proposed Amendment]
[0006]
[Means for Solving the Problem] According to this invention according to claim 1, a data transfer output system The information terminal which has communication facility, and the database which memorizes the information about the address of the various stores in which the airline printer was installed, It is the service center which makes the print data transmitted from said information terminal print with said airline printer. A selection means to choose one or more stores which search said database based on the positional information of an information terminal to the printing demand from said information terminal, and serve as a candidate of a printing location, By specifying a store at an

information terminal to the store information which a store information transmitting means to transmit the information about the store which this selection means chose to an information terminal, and this store information transmitting means transmitted Since it is characterized by having the service center which has a transfer means to transmit the print data from said information terminal in order to make it print with the airline printer installed in the store Also in a destination or migration, a printout becomes possible about data, such as a document currently held at the information terminal, using the airline printer of the store which exists in an every place region.

[Procedure amendment 6]
[Document to be Amended] Specification
[Item(s) to be Amended] 0007
[Method of Amendment] Modification
[Proposed Amendment]

[0007] According to this invention according to claim 5, a data transfer output system The information terminal which has communication facility and scheduler ability, and the database which memorizes the information about the address of the various stores in which the airline printer was installed, It is the service center which makes the print data transmitted from said information terminal print with said airline printer. A selection means to choose one or more stores which search said database to the printing demand from said information terminal based on the incidental information transmitted from an information terminal, and serve as a candidate of a printing location, By specifying a store at an information terminal to the store information which a transmitting means to transmit the information about the store which this selection means chose to an information terminal, and this transmitting means transmitted Since it is characterized by having the service center which has a transfer means to transmit the print data from said information terminal in order to make it print with the airline printer installed in the store A printout becomes possible in the location which set data, such as a document which the user held at the information terminal, by its schedule. According to invention of claim 8, moreover, service center equipment By receiving the printing demand of data with a reception means to receive the printing demand of data from an information terminal, and this reception means A retrieval means to search with a database the store equipped with the airline printer which can receive and print data through a network, By specifying a store at said information terminal to the store information transmitted by transmitting means to transmit the store information retrieved with this retrieval means to said information terminal, and this transmitting means Since it is characterized by having the control means which makes the data outputted from an information terminal at the specified store print, it enables a user to choose the store which offers printing service using a network according to its situation.

[Procedure amendment 7]
[Document to be Amended] Specification
[Item(s) to be Amended] 0092
[Method of Amendment] Modification
[Proposed Amendment]
[0092]

[Effect of the Invention] If a user sends a printing demand to a service center from an information terminal according to this invention When a service center chooses the store which searches a database based on the positional information of an information terminal, and serves as a candidate of a printing location, the information about this selected store is transmitted to an information terminal and a user specifies a store Since the print data from said information terminal come to be transmitted in order to make it print with the airline printer installed in the store, a printout becomes possible using the airline printer of the store which exists in an every place region about data, such as a document which holds the user at the information terminal also in a destination or migration.

[Procedure amendment 8]

[Document to be Amended] Specification
[Item(s) to be Amended] 0093
[Method of Amendment] Modification
[Proposed Amendment]

[0093] When a user sends a printing demand to a service center from an information terminal according to this invention, moreover, a service center The store which searches a database based on incidental information like schedule data, and serves as a candidate of a printing location for example, it is transmitted from an information terminal is chosen. Since the print data from said information terminal come to be transmitted in order to print with the airline printer installed in that store when the information about this selected store was transmitted to an information terminal and a user specified a store A printout becomes possible in the location which set data, such as a document which the user held at the information terminal, by its schedule. If the printing demand of data is received from an information terminal, since the service center equipment of this invention will search with a database the store equipped with the airline printer which can receive and print data through a network and will furthermore transmit the retrieved store information to said information terminal, it enables a user to choose the store which offers printing service using a network according to its situation.

[Translation done.]

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CORRECTION OR AMENDMENT

[Kind of official gazette] Printing of amendment by the convention of 2 of Article 17 of Patent Law
[Section partition] The 3rd partition of the 7th section
[Publication date] March 15, Heisei 14 (2002. 3.15)

[Publication No.] JP,10-191453,A
[Date of Publication] July 21, Heisei 10 (1998. 7.21)
[Annual volume number] Open patent official report 10-1915
[Application number] Japanese Patent Application No. 8-343834
[The 7th edition of International Patent Classification]

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H04Q   7/38
G06F  13/00    355
17/60
H04N   1/00
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[FI]

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H04B   7/26    109 M
G06F  13/00    355
H04N   1/00        C
G06F  15/21        Z
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[Procedure revision]
[Filing Date] October 4, Heisei 13 (2001. 10.4)
[Procedure amendment 1]
[Document to be Amended] Specification
[Item(s) to be Amended] Claim
[Method of Amendment] Modification
[Proposed Amendment]
[Claim(s)]
[Claim 1] The information terminal which has communication facility and scheduler ability,
The database which memorizes the information about the address of the various stores in which the airline printer was installed,
It is the service center which makes the print data transmitted from said information terminal print with said airline printer. A selection means to choose the store which searches said database to the printing demand from said information terminal based on the schedule information which the scheduler ability of the information terminal concerned transmitted from the information terminal concerned manages, and is near the schedule schedule location, By specifying a store with a Personal

Digital Assistant to the store information which a transmitting means to transmit the information about the store which this selection means chose to a Personal Digital Assistant, and this transmitting means transmitted The service center which has a transfer means to transmit the print data from said information terminal in order to make it print with the airline printer installed in the store,
The data transfer output system characterized by preparation ******.
[Claim 2] Said service center is a data transfer output system according to claim 5 characterized by having a password data generation means and a password data transmitting means to transmit the password data generated with this password data generation means to said airline printer and information terminal.
[Claim 3] A reception means to receive the printing demand of data from an information terminal,
A retrieval means to search an available store with a database based on a user's schedule information that the information terminal has the store equipped with the airline printer which can receive and print data through a network by receiving the printing demand of data with this reception means,
A transmitting means to transmit the store information retrieved with this retrieval means to said information terminal,
Service center equipment characterized by having the control means which makes the data outputted from an information terminal at that specified store by specifying a store at said information terminal to the store information transmitted by this transmitting means print.
[Claim 4] Service center equipment according to claim 3 characterized by containing the use tariff of printing in store information.
[Claim 5] Service center equipment according to claim 3 characterized by having a means to generate the password for delivery of printed matter.
[Procedure amendment 2]
[Document to be Amended] Specification
[Item(s) to be Amended] 0006
[Method of Amendment] Deletion
[Procedure amendment 3]
[Document to be Amended] Specification
[Item(s) to be Amended] 0007
[Method of Amendment] Modification
[Proposed Amendment]
[0007]
[Means for Solving the Problem] Invention according to claim 1 is characterized by having the following. A data transfer output system is an information terminal which has communication facility and scheduler ability. The database which memorizes the information about the address of the various stores in which the airline printer was installed It is the service center which makes the print data transmitted from said information terminal print with said airline printer. A selection means to choose one or more stores which search said database to the printing demand from said information terminal based on the incidental information transmitted from a band information terminal, and serve as a candidate of a printing location, By specifying a store at an information terminal to the store information which a transmitting means to transmit the information about the store which this selection means chose to an information terminal, and this transmitting means transmitted The service center which has a transfer means to transmit the print data from said information terminal in order to make it print with the airline printer installed in the store Invention of claim 3 service center equipment By receiving the printing demand of data with a reception means to receive the printing demand of data from an information terminal, and this reception means A retrieval means to search with a database the store equipped with the airline printer which can receive and print data through a network, By specifying a store at said information terminal to the store information transmitted by transmitting means to transmit the store information retrieved with this retrieval means to said

information terminal, and this transmitting means Since it is characterized by having the control means which makes the data outputted from an information terminal at the specified store print, it enables a user to choose the store which offers printing service using a network according to its situation.

[Procedure amendment 4]
[Document to be Amended] Specification
[Item(s) to be Amended] 0092
[Method of Amendment] Modification
[Proposed Amendment]
[0092]

[Effect of the Invention] When a user sends a printing demand to a service center from an information terminal according to invention of claims 1 and 3, a service center When the store which searches a database based on the schedule data transmitted from an information terminal, and serves as a candidate of a printing location is chosen, the information about this selected store is transmitted to an information terminal and a user specifies a store Since the print data from said information terminal come to be transmitted in order to print with the airline printer installed in the store, a printout becomes possible in the location which set data, such as a document which the user held at the information terminal, by its schedule.

[Procedure amendment 5]
[Document to be Amended] Specification
[Item(s) to be Amended] 0093
[Method of Amendment] Deletion

[Translation done.]

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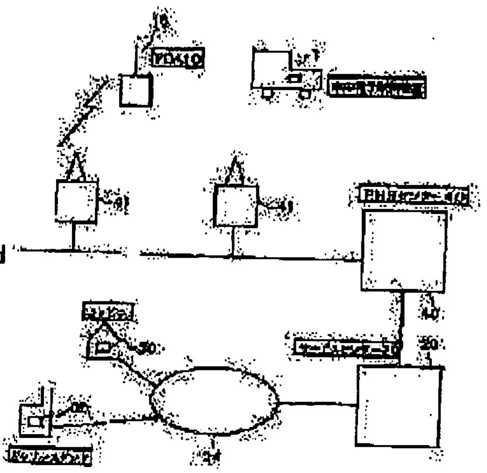
(54) DATA TRANSFER OUTPUT SYSTEM AND INFORMATION PROCESSING UNIT

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a data transfer output system which transfers document data or the like prepared by a personal digital assistant(PDA) to a printer installed at a shop designated by a user to allow the printer to print out the document data.

SOLUTION: Document data and position information (or information relating to a succeeding mobile location) prepared by a PDA 10 are transmitted to a service center 20 via a personal handy phone system(PHS) center 40 and the service center 20 selects information relating to a shop (a gas station in the case that a user is in a vehicle) being a print proposed location where a printer 30 is installed closer to the PDA 10 (or a succeeding moving location) than a database, transmits the information to the PDA 10 and the user designates the print location among the print proposed location displayed on the PDA 10 to allow the service center 20 to transfer document data to the designated printer 30, where the document is printed out.



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CLAIMS

[Claim(s)]
[Claim 1] The Personal Digital Assistant which has a document composition facility and communication facility, and a monitor means to supervise the positional information of said Personal Digital Assistant, The airline printer installed in the various stores with which an applicable area is dotted, and which offer printing service of transfer data, When the database which memorizes the information about the location of said airline printer, and the document data and the printing demand which were created from said Personal Digital Assistant are transmitted One or more airline printers which search said database based on the positional information of this Personal Digital Assistant from said monitor means, and serve as a candidate of a printing location are chosen. The information about the store in which the selected airline printer is installed is transmitted to this Personal Digital Assistant. The data transfer output system characterized by having the service center which makes the document data transmitted from this Personal Digital Assistant by the airline printer chosen with this Personal Digital Assistant based on the transmitting contents print.
[Claim 2] The data transfer output system according to claim 1 characterized by creating password data in said service center, and transmitting said password data to said airline printer and said Personal Digital Assistant when printing the document data from said Personal Digital Assistant with said airline printer.
[Claim 3] It is the data transfer output system according to claim 1 or 2 characterized by for said Personal Digital Assistant having the function to transmit incidental information to said service center further, and for said service center considering said incidental information, and choosing said airline printer.
[Claim 4] It is the data transfer output system according to claim 3 characterized by said service center choosing the airline printer currently installed in the gas station when said incidental information is the information about whether said Personal Digital Assistant is in a vehicle, said some of airline printers are arranged in a gas station and there is said Personal Digital Assistant in the train.
[Claim 5] The Personal Digital Assistant which has a document composition facility, communication facility, scheduler ability, and a clock function, The airline printer installed in the various stores with which an applicable area is dotted, and which offer printing service of transfer data, When the database which memorizes the information about the location of said airline printer, and the document data and the printing demand which were created from said Personal Digital Assistant are transmitted Choose one or more airline printers which search said database based on the incidental information transmitted from this Personal Digital Assistant, and serve as a candidate of a printing location, and the information about the store in which the selected airline printer is installed is transmitted to this Personal Digital Assistant. The data transfer output system characterized by having the service center which makes the document data transmitted from this Personal Digital Assistant by the airline printer chosen with this Personal Digital Assistant based on the transmitting contents print.

[Claim 6] The data transfer output system according to claim 5 characterized by creating password data in said service center, and transmitting said password data to said airline printer and said Personal Digital Assistant when printing the document data from said Personal Digital Assistant with said airline printer.
[Claim 7] It is the data transfer output system according to claim 5 or 6 characterized by for said incidental information being the information about the location of the next migration schedule location memorized by the schedule guessed from the request time amount of a printing demand, and said service center choosing the airline printer near the migration schedule location.
[Claim 8] The Personal Digital Assistant which has a document composition facility and communication facility, and a monitor means to supervise the positional information of said Personal Digital Assistant, The airline printer installed in the various stores with which an applicable area is dotted, and which offer printing service of transfer data, When the document data and the printing demand which are an information processor on the network where the database which memorizes the information about the location of said airline printer is connected by the communication line, and were created from said Personal Digital Assistant are transmitted A means to choose one or more airline printers which search said database based on the positional information of this Personal Digital Assistant from said monitor means, and serve as a candidate of a printing location, A means to transmit the information about the store in which the airline printer which this selection means chose is installed to this Personal Digital Assistant, The information processor characterized by having a means to make the document data transmitted from this Personal Digital Assistant to the airline printer chosen with this Personal Digital Assistant based on the transmitting contents print.
[Claim 9] The Personal Digital Assistant which has a document composition facility, communication facility, scheduler ability, and a clock function, The airline printer installed in the various stores with which an applicable area is dotted, and which offer printing service of transfer data, When the document data and the printing demand which the database which memorizes the information about the location of said airline printer is the information processor connected by the communication line, and were created from said Personal Digital Assistant are transmitted A means to choose one or more airline printers which search said database based on the schedule information transmitted from this Personal Digital Assistant, and serve as a candidate of a printing location, A means to transmit the information about the store in which this selected airline printer is installed to this Personal Digital Assistant, The information processor characterized by having a means to make the document data transmitted from this Personal Digital Assistant to the airline printer chosen with this Personal Digital Assistant based on the transmitting contents print.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the data transfer output system which makes possible the printout of the document data of a Personal Digital Assistant in the airline printer installed in the various stores with which an area is dotted.
[0002]
[Description of the Prior Art] Recently, PDA (Personal Digital Assistants) which is the small Personal Digital Assistant equipped with functions, such as total tide ability, scheduler ability, a document composition facility, and communication facility (a PHS function, facsimile function, etc.), began to spread, and the user could carry out easily, without time amount and a location influencing creation of schedule management of them, a various kinds of information retrieval or a document, etc., etc. with a Personal Digital Assistant.
[0003] Moreover, PDA is having communication facility, such as a PHS function and a facsimile function, and can also receive offer of the information from a network that an exchange of data with the external device equipped with communication facility and various kinds of information are offered etc. When a PHS function is used, the location add function which carries out updating registration of the own location is equipped, the positional information of PDA is supervised by the PHS service control station which is a key station by the side of PHS, and the location of PDA understands it.
[0004]
[Problem(s) to be Solved by the Invention] However, the printer by which small Personal Digital Assistants, such as PDA, usually carry out the printout of the data was not equipped, and even if it tended to perform printouts, such as a document drawn up under migration and at a destination, it was not able to be performed easily.
[0005] Then, the technical problem of this invention is to offer the possible data transfer output system of transmitting document data etc. to the airline printer installed in the store where a user specifies the document data created in Personal Digital Assistants, such as PDA, and performing a printout.
[0006]
[Means for Solving the Problem] According to this invention according to claim 1, a data transfer output system The Personal Digital Assistant which has a document composition facility and communication facility, and a monitor means to supervise the positional information of a Personal Digital Assistant, When the airline printer installed in the various stores with which an applicable area is dotted, and which offer printing service of transfer data, the database which memorizes the information about the location of an airline printer, and the document data and the printing demand which were created from the Personal Digital Assistant are transmitted Choose one or more airline printers which search a database based on the positional information of this Personal Digital Assistant

from a monitor means, and serve as a candidate of a printing location, and the information about the store in which the selected airline printer is installed is transmitted to this Personal Digital Assistant. By having had the service center which makes the document data transmitted from this Personal Digital Assistant by the airline printer chosen with this Personal Digital Assistant based on the transmitting contents print, a user In case it is going to print the document drawn up with the Personal Digital Assistant, when the document data created from the Personal Digital Assistant are transmitted to a service center, a service center Search from a database the printing candidate location near the location of a Personal Digital Assistant for which were suitable, and the retrieval result is transmitted to a Personal Digital Assistant. If a user specifies a printing location from the printing candidate location transmitted to the Personal Digital Assistant, a service center will be transmitted to the airline printer which had document data specified, and the printout of document data of it will become possible in the appointed airline printer. Consequently, printouts, such as a document drawn up with the Personal Digital Assistant, become possible also in a destination or migration by this data transfer output system.

[0007] According to this invention according to claim 5, a data transfer output system The Personal Digital Assistant which has a document composition facility, communication facility, scheduler ability, and a clock function, When the airline printer installed in the various stores with which an applicable area is dotted, and which offer printing service of transfer data, the database which memorizes the information about the location of an airline printer, and the document data and the printing demand which were created from the Personal Digital Assistant are transmitted Choose one or more airline printers which search a database based on the incidental information transmitted from this Personal Digital Assistant, and serve as a candidate of a printing location, and the information about the store in which the selected airline printer is installed is transmitted to this Personal Digital Assistant. By having had the service center which makes the document data transmitted from this Personal Digital Assistant by the airline printer chosen with this Personal Digital Assistant based on the transmitting contents print, a user In case it is going to print the document drawn up with the Personal Digital Assistant, when the document data created from the Personal Digital Assistant are transmitted to a service center with incidental information, a service center Search the printing candidate location in consideration of incidental information from a database, and the retrieval result is transmitted to a Personal Digital Assistant. If a user specifies a printing location from the printing candidate location transmitted to the Personal Digital Assistant, a service center will be transmitted to the airline printer which had document data specified, and the printout of document data of it will become possible in the appointed airline printer. Consequently, printouts, such as a document drawn up with the Personal Digital Assistant in the airline printer installation in consideration of a user's incidental information, become possible by this data transfer output system.

[0008]

[Embodiment of the Invention] Hereafter, the detail of the gestalt of operation of the data transfer output system concerning this invention is explained, referring to drawing.

[0009] With the gestalt of operation of [gestalt of the 1st operation] **** 1, the PHS pin center,large 40 shall be applied as a Personal Digital Assistant as equipment which supervises the positional information of PDA10 for PDA10 (when there is PDA10 in the train, you may make it grasp the location of PDA by the positional information of the GPS unit 3 in addition).

[0010] First, the configuration of the gestalt of operation of **** 1 is explained.

[0011] Drawing 1 is the block diagram which indicated the outline configuration of the whole data transfer output system concerning the gestalt of operation of **** 1.

[0012] The data transfer output system concerning the gestalt of this operation consists of a base station 41 by the side of the network 24 which connects the electronic control 1 of a vehicle, PDA10, a service center 20 and the airline printer 30 at the various stores which offer printing service, the PHS pin center,large 40, and an airline printer 30 and a service center 20, and the PHS pin center,large 40 etc.

[0013] It is an electronic control about the part concerning the gestalt of operation of this invention of various kinds of electronic controls carried in the vehicle, is the electronic control which carries out supervisory control of the GPS unit 3, and has a data-processing function and the communication facility in a short distance with PDA10 grade, and the electronic control 1 of a vehicle can perform PDA10 and data communication (the detail of the electronic control 1 of a vehicle is indicated to below-mentioned drawing 2).

[0014] PDA (Personal Digital Assistants)10 is the small Personal Digital Assistant which the user who had communication facility, such as a function manager (PIM function), a PHS function, etc. of personal data, such as an entry of data and a document composition facility which can be created, a clock function, and a scheduler, etc. by a key input or the ** N input carries, and is equipped also with communication facility with the electronic control 1 of the vehicle in a short distance (the detail of PDA10 is indicated to below-mentioned drawing 3).

[0015] A service center 20 is equipped with the database 23 of the information about printing service at the various stores in which the airline printer 30 with which an area is dotted was installed, and the store concerned, and chooses the airline printer 30 which was suitable according to the printing demand from a user's PDA10, and a user transmits document data to the airline printer 30 concerned specified out of it, and makes an airline printer 30 print it (the detail of a service center 20 is indicated to below-mentioned drawing 4). Moreover, a service center 20 creates password data and transmits them to the both sides of PDA10 and an airline printer 30.

[0016] It is equipment which an airline printer 30 is installed in the various stores (for example, a convenience store, a gas station, etc.) which offer the printing service with which an area is dotted, and receives and carries out the printout of the print data from a user. At this time, the print data sent to the PHS pin center,large 40 from PDA10 It is transmitted to an airline printer (or direct [without going]) 30 via a service center 20 from the PHS pin center,large 40 (at this time, password data are sent to PDA10 and an airline printer 30 from a service center 20, respectively). And the user who ordered printing service pays a regular tariff to the store concerned, and receives at it the document by which the printout was carried out. However, in creating password data, it checks whether the password data (password etc.) which the airline printer 30 and user side of PDA10 received from the service center 20, respectively are in agreement in the case of delivery.

[0017] The PHS pin center,large 40 is a PHS service control station used as the key station of the base station 41 installed in order to receive the electric wave from PDA10. [many] Supervise the positional information of PDA10 which is a Personal Digital Assistant by the location add function which is one of the network functions of PHS, and the base station 41 by which distributed installation is carried out is minded. The received data from PDA10 are transmitted to a service center 20, and transmission or the data from a service center 20 is transmitted to PDA10 (however, you may make it transmit print data to an airline printer 30 directly, without transmitting to a service center 20).

[0018] Drawing 2 is the block diagram which indicated the outline of the configuration of the electronic control 1 of the vehicle which is one of the data transfer output structure-of-a-system elements concerning the gestalt of this operation.

[0019] The electronic control 1 of a vehicle consists of stores 8, the communications departments 9, etc. having CPU2, the GPS unit 3, a display 4, the input section 5, RAM6 and ROM7, and storage 8a, and each of these components are mutually connected through Buss 1a.

[0020] CPU (Central Processing Unit)2 The application program specified out of the various application programs corresponding to the system program memorized by storage 8 and the system program concerned is stored in the program storage area in RAM6. The various directions or data inputted from the GPS unit 3, the input section 5, and (minding the communications department 9) PDA10 is stored in RAM6. While performing various processings according to the application program stored in storage 8 according to this input directions or input data and storing that processing